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Testing Dutch disease syndrome via foreign direct investment: A case for Mauritius

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Keywords

Dutch Disease, Foreign Direct Investment, Exports, Real Effective Exchange Rate

Abstract

The primary linkage of Dutch Disease is based on large influx FDI leading to the appreciation of the real effective exchange rate, together affecting a country's export competitiveness. The existence of a Dutch Disease syndrome is tested in the Mauritian economy by using annual time series data sourced from official foundations from 1980 to 2019. We captured the Dutch Disease syndrome through 2 main effects namely through i) the REER appreciation due to FDI and ii) a decline in export's competitiveness. After investigation, using a Vector Error Correction Model, it is observed that Mauritius has not experienced such a disease with respect to the arrival of FDI because the government and local firms were successful in implementing right and stable policies.

1. introduction

This piece of research work seeks to examine whether Mauritius has been able to make the most of the opportunities presented as being one of the chief beneficiaries of FDI in the African region. The possibility for FDI to generate a go-slow in the competitiveness of a country via the Dutch Disease has been much quoted in many academic papers. The word Dutch Disease was initially cast-off in the *Economist* in 1977 to describe a rare economic phenomenon that on one hand causes a positive reaction in one sector of an economy but on the other hand the same reaction causes a negative response in another sector. In fact, the Dutch Disease gave its birth in the late 1950s when Netherlands exports volume escalated because of the discovery of natural gas but at the same time transmitting harmful effects to its manufacturing sectors. Over the years, FDI has been the main channel connecting many countries on an international platform. This global sync though has flustered the economic pulse of many countries, such that the influence of FDI on different sectors and its sustainability are now being put through the wringer. Soto (2000) blames FDI for crisis while others suggested that it is the most relevant element underwriting development. Several countries in the African region such as the Nigeria and Angola have shown the symptoms of Dutch Disease through the presence of FDI (Olusi and Olagunju, 2005). This brings us to increased interest in recognising the involvement of FDI to economic development and to wonder the Dutch Disease syndrome.

Against the above backdrop, the inclination of this research is to test concretely the existence of the Dutch Disease symptoms through FDI in the Mauritian economy. A few years after Mauritius gained its independence in 1968, negotiated quotas and pledged rates for international and regionalism allowed the island to breathe the air of diversification. Mauritius had an agronomic economy that was heavily focused on sugar plantation, which accounted for nearly 20% of GDP and over 60% of export. The cultivation of sugar cane activated the take-off of economic growth. This sector benefited from an exceptionally favourable market position, created by international agreements that seem to have played a key role in the external charisma of Mauritius. Mauritius seems to have greatly been spared from resource curse phenomenon because the country was timely swift to enlarge its economic pillars. However, exporting an abundant natural resource can lead to the of Dutch Disease. Recent literatures forwarded that Dutch Disease can be adapted to a massive influx of FDI. The Dutch Disease problem can also be referred to a contraction in the volume of international marketed products owing to the large receipts of FDI. Being a well-diversified economy, Mauritius has experienced fast and gigantic growth in its manufacturing and tertiary sector and FDI was the common lead front of all sectors. Given that the main reason for receiving the capital inflows

is to enhance economic development, it is interesting to investigate the offsetting effects of its envisaged potential positive impacts under the Dutch Disease framework.

The major research question for this study is to test whether Mauritius has experienced any kind of Dutch Disease symptoms. However, to assess the Dutch Disease syndrome, we shall segment our analysis into the following phrased research questions:

- There is a significant relationship between FDI and REER
- There is a significant relationship between REER and the % of manufacturing exports
- The casual relationship between FDI, REER and % of manufacturing exports

To determine if an economy has experienced Dutch Disease syndromes, it necessitates one to prove the connection between 2 variables, an appreciation in REER and a decay in exportation, with the existence of many factors that affect economic performance such as FDI and any other foreign inflows. Coincidental strengths of FDI should not be a sign of Dutch Disease, as this overlooks the element that the REER is determined by a varied set of factors.

The rest of the paper is organised as follows, section 2 dwells into a brief discussion on the theoretical and empirical literature related to the Dutch Disease, section 3 discusses the methodology, data collection process and the results while section 4 concludes.

2. Theoretical and empirical literature review

Dutch Disease is an alarming concern for small economies residing in Africa and Asia. In a simplistic manner, Dutch Disease can be defined as when foreign currency enters a country and is converted into local currency, the money supply of that country increases. Further, domestic demand for local currencies grades in an appreciation of exchange rate which creates a situation where a unit of foreign currency buys less goods and services in the local economy than previously. Consequently, the country loses its competitiveness vis-à-vis other countries. As per the original definition of Corden and Neary in 1982, the Dutch Disease refers to the structural penalties of a change in the sectoral composition of an economy due to a large influx of foreign wealth.

Traditional theory of Dutch Disease

The Core Model

In the rouse of this new Disease, Max Corden and Peter Neary first established the Dutch Disease theory. The framework, popularly known as the Core Model, assume a small open economy that manufactures three categories of goods. The two are traded goods given at international prices and the third one is a non-traded goods whose price is set by the forces of local supply and demand. The traded goods sector comprises a booming sector and the other was a non-booming one. The non-traded good is believed to be formed by the service sector. Interactions between these sectors would happen through the: "resource movement effect" and the "spending effect". The table1 describes the 2 mentioned channels.

A two-sector economy model was also originally used by Corden (1984) to demonstrate the so called "manufacturing squeeze". By using the two-sector economy model, he showed how the exploitation of natural resources, through exports, activates huge capital inflows which in turn rises the domestic currency. The model has mainly been used for analysing the impact on the economy from a large unearthing of natural resources, such as oil, petrol and gas. As reported by Ebrahim-Zadeh (2003), the Core Model and the two-sector economy model can also be used for analysing the effects of any increase in foreign capital such as remittances, FDI and ODA.

Table 1: Channels of Dutch Disease

CHANNELS	DESCRIPTIONS
The resource movement	On the supply-side, an increase in the value of the booming sector's output will shift all the factors of production from the non-booming sector, popularly taken away from the manufacturing sector.
The spending effect	On the demand side, the boom will cause world prices traded at an international level to rise. This extra spending raises the comparative price of non-tradable, resulting in a further appreciation of the REER. In reply, this leads to a contraction of the non-booming tradable sector.

Modern literature review of the Dutch Disease

Accordingly, the basic Dutch Disease model was subsequently augmented in various ways to introduce new conduits that could generate negative effects. Modern literature relating to the Dutch Disease has geared their focus from booming natural resource economy to booming FDI. Classic literature has since been altered for them to be functional in developing economies to explain the recurrently pragmatic economic slowdown in such countries following to a large influx of FDI, foreign aid and remittances (Acosta, Lartey, and Mandelman, 2004). The study by Nkusu (2004) has shown that the Core model can be adapted to understand the impact of large inflows of FDI instead of just a natural resource boom. As explained by Magud and Sosa (2010) in their research, most of the modern Dutch Disease literature stresses the impact of FDI on REER.

FDI and Dutch Disease

Modern literatures have stressed the impact FDI on the REER. A large real increase of a country's currency because of excessive FDI will inflict export competitiveness and will lead to the current account to worsen and an increasing the feebleness to crisis. If the arrival of the FDI increases the demand for non-tradable in the addressee country, then it leads to appreciation. Hence, *ceteris paribus*, a rise in FDI strengthens the REER.

Dutch Disease is dedicated to as the co-existence within the traded goods sector of booming and lagging subsectors. Rodrik (2007) detected that REER overvaluation weakens long-term economic performance, particularly for developing countries where the manufacturing industry production suffers excessively from weak institutions. Fat inflows of FDI standardly augment consumption spending, appreciate the REER and may thus have damaging effects on the exterior attractiveness of the recipient economies (Lartey, 2008). REER appreciation in turn harms the development of non-booming sectors by making them less lucrative and competitive. A de-industrialisation process eventually takes place, possibly cutting potential long-run growth (Ros, 2008). Under the framework of Dutch Disease, the manufacturing sector is usually taken to assess the negative impact. They explained their conclusions by the suggestion that FDI tends to be more prejudiced toward tradable goods than with the other forms of capital flows.

Ang (2008) argued that if the financial system of a country is well developed, stable and robust then the capacity to attract FDI in this sector will be more efficient. However, she also said that FDI will not only continue to promote economic growth, but also will acts as a catalyst for many other sectors such as the manufacturing sector. Frenkel and Rapetti (2009) have contended that massive FDI led to stout exchange rate appreciation and causes rapid downfalls in several developing economies. Within the Dutch Disease context, foreign reserves turn out to be the exogenous policy tool in the hands of local monetary authorities, through which they may attempt to pull or even converse pressures on exchange rate appreciation or control exchange rate devaluations and circumvent downfalls in occurrence of increasing capital outflows. Additionally, Stijns (2009) pointed that FDI may lead to the creation of a dual economy triggering similar effect under the Dutch Disease framework. It consists of one developed sector, habitually owned by foreign investors and an underdeveloped sector owned by domestic owners. The developed sector is usually capital-intensive, while underdeveloped manufacturing sectors are labour-intensive. Thus, this adverse fallout of FDI could be harmful for local firms.

As quoted from the work of Rajan and Subramanian (2009): “many studies found that the traded goods sector is a network through which an economy engrosses best practices from foreign economies. But the absence of these learning-by-doing spill overs can experiment to be critical to long run productivity growth and could be one constraint on growth.....”. Their findings indicated that FDI have systematic aggressive effects on a country’s competitiveness as evidenced by the lower relative growth rate of exportable industries with REER appreciation being the channel for such effects. He also proclaimed that aid inflows into an economy have systematic adverse effects on the developing economy’s competitiveness as indicated by the decreasing growth of the export industries and harming long term growth, which is in line with the Core Dutch Disease Model.

Ismael (2010) discovered that the focal channel through which the Dutch Disease takes place is the spending effect. He also displayed that typical Dutch Disease effects are more influential in small open economies where the services sector is labour-intensive, since this exacerbates the REER appreciation induced by a non-elastic supply response in the expanding non-tradable sector.

FDI acts as a developmental tool in all sectors and tourism has no exceptions. Specifically, the tourism industry was also used to test the Dutch Disease effects due to massive investment of enterprises in small costal island. The Dutch Disease model was accustomed to observe the economic effects of an increase in tourism in a small, open economy which are very connected to other foreign markets. (Copeland, 2010) In relation to tourism related FDI, the Dutch Disease is sometimes called the ‘Beach Disease’ (Holzner, 2010). Capóet *al.* (2010) investigated whether tourism related FDI causes Dutch Disease. They find that investment in the tourism sector brought a substantial growth in general wealth but at the same time the increased emphasis on tourism and non-traded goods has led to a decline of manufacturing exports.

Some adjustments were necessary because there are important variances between tourism and commodity exports. In the presence of tourism, goods that are usually non-tradable become somewhat tradable and tourists typically avail themselves with bundle of goods and services. Chao et al (2007) explored the effects of an expansion in tourism related investment and concluded that this phenomenon leads to a resource allocation between service sector and manufacturing sector for exportation as backed by the Dutch Disease theory.

Although regularly thought to be synonymous, one should bear in mind that Dutch Disease and Resource Curse are dual distinct matters. Dutch Disease is defined as a pure economic problem in which the economy fine-tunes to the new equilibrium following large-scale inflows of foreign exchange which is FDI in our case. On the other hand, Resource Curse is a theory that sees natural resource profusion to cause inherently pessimistic impacts on growth and development. This proposition was supported by Sachs and Warner and later popularised by the seminal work by Auty (2010) when the Core Model was revamp.

Hirschman (2010) stressed that the contraction of the manufacturing sector makes this phenomenon a Disease which though is nothing harmful if neoclassical and competitive situations abound in the economy. In the same study, he mentioned that the Dutch Disease can be a real Disease and a basis of constant contraction if there is something special about the causes of growth in manufacturing, such as the "backward and forward linkages". He also forwarded that strong appreciation, the manufacturing sector loses competitiveness, causing a decline in output and employment and thus leading directly to deindustrialisation.

Javed (2011) argued that the permanent change of Dutch Disease can be worrisome. Dutch Disease creates a situation of resource allocation where labour and capital are transported from one sector to another. Some small businesses may be compulsorily shut down and employees will need to have new jobs. In economies where small businesses are major pillar for economic growth, Dutch Disease risk a country’s long-term growth performance by choking off an important source of human capital development. He also mentioned in his study that it is not constantly easy to draw a relationship between FDI, REER and level of manufacturing exports because several other factors can contribute to the same signs of Dutch Disease.

On the other hand, Edwards (2010) conversed whether Dutch Disease is a Disease in the first place. Their findings showed that it is not a Disease if the real appreciation is not perpetual. Similarly, as per the study of Ha-Joon Chang (2010), Dutch Disease is merely an explanation of the causes and structural effects of an economy boom, that is, resource reallocation away from a less lucrative non-booming sector to those

that have comparative advantage. However, the general economic growth of the country need not suffer from the lessening non-booming tradable sector.

Nkusu (2010) also showed that small economies that receive FDI need not experience Dutch Disease. This happens because these small countries have idle capacity and hence can efficiently content the demand brought by FDI boom. Olaopa (2010) build a model to explicitly analyse the effects of FDI in economic growth through the REER and thus the need to use a Dutch Disease type of model. It showed that if there is factor underutilisation, that is, unemployment, the Dutch Disease spending effect fades. Thus, REER appreciation will not affect the manufacturing sector and thus it will not lessen growth until the economy returns to full employment, that is, when the spending effect re-activates. Nevertheless, the Dutch Disease does not necessarily imply a deficit in the trade balance since the surplus of one sector is sufficient to cover the deficit in another sector goods.

It is also obvious that FDI inflows comes with macroeconomic management problems. As Calderon (2010) highlighted, the more flexible the exchange rate regime and the more sovereign the monetary policy, the more unstable are the fluctuations. Supporters of “competitive” exchange rates, most flagrantly Asafu (2010), claimed that exchange rate undervaluation should be part as a strategic growth plan and the neutralisation of the Dutch Disease always involves the implementing an effective and efficient exchange rate policy. Connecting the Dutch Disease phenomenon with the relation between the REER and growth, a recent view suggested that economic policies maintained by the government should contain any Dutch Disease effects (Bresser-Pereira, 2011).

Ebrahim-Zadeh (2011) noted that the fading away of the competitiveness of the tradable sector is irrespective of the exchange rate policy that the country operates. In summary, while the early and original Dutch Disease literature offered an insightful theory as to why countries might suffer from a resource boom, they also provided precautionary care to FDI. To reverse these negative effects, Chenery (2011) suggested that by either diminishing the real domestic expenditures or reducing public debt in an amount equal to FDI or more importantly, use the FDI in accumulating foreign financial assets. The related literature revealed a disparity in the impact of the different types of capital flows on competitiveness and even a disparity in the impact of specific types of capital flows across countries and regions. The impact rest on the types of expenditure each flow is tied to.

Empirical Evidence

There are abundant empirical studies, both single-country and cross-country panel data, on the Dutch Disease theory. The results from the rigorous statistical testing indicate that for the annual data increases/decreases FDI inflows are associated with a depreciation/appreciation in the REER. White (1992) carried out their studies in Asia and found that an increased in FDI and aid caused a real appreciation of the Sri Lankan currency. To support this, Elbadawi (1993) conducted a study on 62 developing countries found that for Sri Lanka that FDI appreciated the REER of the recipient countries in their study.

The Computable General Equilibrium (CGE) approach was commonly used to test for the Dutch Disease effect. Devaranjan et al (1998) used this model to approximate the change in the equilibrium REER with respect to changes in FDI. This model was popularly used to analyse the effects of Dutch Disease. For instance, Vos (1998) found that FDI prompt strong Dutch Disease effects in Pakistan. Similarly, Nyoni (1998) examined the impact of FDI in Tanzania on macroeconomic variables such as the REER, export performance, government expenditure, investment and growth. Using time series data from 1969 to 1993, the study employed cointegration techniques and an error-correction model to approximate the long-run equilibrium and the short-run REER, respectively. They argued that although seemingly beneficial, FDI generated undesirable consequences for Tanzania. These undesirable impacts include appreciation of the REER and the following deterioration in export performance. Laplagne et al. (2000) found the same evidence of Dutch Disease effects by calibrating a CGE for some South Pacific countries.

In the study of Ouattara (2000), she found that the issue of private capital flows, which is more important than foreign aid to Latin America was associated with a depreciation of the REER while other capital flows have the counter effect. Stijns (2003) investigated the Dutch Disease effects by using a gravity model of trade. This model has helped him to take out the other macroeconomic effects faced by a home economy. In the paper, four different testable hypotheses are being identified; an appreciation of the REER;

an increase in non-traded output; a decrease in manufacturing sector production; and a contraction in manufacturing exports.

The 'Salter-Swan-Corden-Dornbusch model' was also used to analyse the impact of foreign inflows on the REER in emerging economy. The apparatus explained that the increase in different foreign inflows induces appreciation in the REER. Studies carried out Athukorala and Lartey (2007) also used the same model which were devoted in assessing the power of FDI on the REER. The results confirmed the presence of Dutch Disease effects over time in Macau where the first symptom was manifested in the appreciation of REER.

Furthermore, using the Bayesian techniques, Acosta (2007) tested whether there is the existence of Dutch Disease in El Salvador. He designed a DSGE model for this small open economy and found that remittances cause more contraction in the manufacturing sector than FDI. Javaid (2008) investigated Dutch Disease hypothesis by analysing the impact of foreign exchange inflows namely, FDI, on appreciating REER for selected East Asian countries over 1981-2007. The study initially estimates the effect of surge in foreign exchange inflow on REER and subsequently investigates contraction in the tradable sector. Overall, the findings confirmed the existence of Dutch Disease effect. Likewise, Biswas and Dasgupta (2008) observed the impact of foreign capital inflows in India on the REER using quarterly data. The result indicated that both FDI and workers' remittances induce REER appreciation which is in accordance with the Dutch Disease hypothesis. Rajan and Subramania (2009), for the case of 33 developing countries during 1980 to 1990, also confirmed that foreign investment causes a loss in competitiveness in its manufacturing sector through REER appreciation.

Besides, Palma (2009) came up with a new approach to the Dutch Disease. She analysed a sample of 105 countries and acknowledged that the Dutch Disease can also arise in macroeconomic policies. Similarly, Harold (2010) carried out his analysis on a sample of 50 developing countries and observed that REER appreciation was only a matter to what extent a government can adopt the right policies. Conflicting results have also been found in a study of foreign aid and the REER in Ghana. Using twelve-monthly data on six Central American countries over the period of 1985 to 2004, Izquierdo and Montiel (2010) found the REER to be steady despite increased FDI.

Under the GCE model, empirical evidence showed that the impact of FDI on the REER varies from region to region. In a study on FDI and the REER in twelve francophone West African countries, Quattara & Strobl (2011) found that FDI do not generate Dutch Disease effects. Strobl (2004) also examined the relationship between FDI and the REER in 12 countries of the West African CFA Franc zone. Their results from dynamic panel analysis indicated that FDI do not generate Dutch Disease effects in these countries as FDI and the ratio of exports and the measure of openness tend to cause the REER to depreciate.

Taguchi (2017) studied the case of a sample of Asian economies and interestingly reported that the Dutch Disease was identified for 1980-1995, but not for 1995-2014. The authors posited that this could be due to their institutional improvements. More recent work from Barczikay et al. (2020) using nonlinear model with Botswana as a case study reported a partial Dutch disease phenomenon related to Botswana's trade with Namibia and South Africa. Murshed and Rashid (2020) for four emerging South Asian economies Bangladesh, India, Pakistan, and Sri Lanka on the other hand found that FDI inflows triggered a depreciation of the real exchange rate.

3. The econometric methodology, data sources and data descriptions

Model description

The 2-empirical model as established by Nyatepe-coo (1994) is given below. The first function captures the relationship between REER and FDI and the second function captures the relationship between MEXP and REER.

$$REER = f(FDI, ODA, TOT, OPEN) \dots\dots\dots(1)$$

$$MEXP = f(REER, TOT, OPEN, INV) \dots\dots\dots (2)$$

Thus, we re-write the linear equations as such:

$$REER_t = \alpha + \beta_1 FDI_t + \beta_2 ODA_t + \beta_3 TOT_t + \beta_4 OPEN_t + \xi_{1t} \dots\dots\dots(3)$$

$$MEXP_t = \mu + \lambda_1 REER_t + \lambda_2 TOT_t + \lambda_3 OPEN_t + \lambda_4 INV_t + \xi_{2t} \dots\dots\dots (4)$$

According to Bourdon and Korinek (2012), natural logarithmic chosen for various studies as it condenses multicollinearity as well as plummets the large values to relatively manageable ones. Also, it displays elasticity and thus rate of change. The empirical model equation can be thus presented as follows:

$$\text{LNREER}_t = \alpha + \beta_1 \text{LNFDI}_t + \beta_2 \text{LNODA}_t + \beta_3 \text{LNTOT}_t + \beta_4 \text{LNOPEN}_t + \xi_{1t} \dots \dots \dots (5)$$

$$\text{LNMEXP}_t = \mu + \lambda_1 \text{LNTOT}_t + \lambda_2 \text{LNREER}_t + \lambda_3 \text{LNOPEN}_t + \lambda_4 \text{LNINV}_t + \xi_{2t} \dots \dots \dots (6)$$

Where:

t is the time trend

α is the intercept for equation 3 and 5

μ is the intercept for equation 4 and 6

$\beta_1, \beta_2, \beta_3,$ and β_4 are the slope coefficients of the equations 3 and 5

$\lambda_1, \lambda_2, \lambda_3$ and λ_4 are the slope coefficients of the equations 4 and 6

ξ_{1t} and ξ_{2t} are the error terms which is presumed according to Ordinary Least Squares assumption to be distributed in zero mean and constant variance.

LN = Natural logarithm

Data descriptions

Annual time series data were used for the study, and they are purely secondary data. This study covers the period 1980 to 2019 to test the existence of Dutch Disease syndrome in Mauritius. Below is a brief description on the variables that has been integrated in both model functions. Appendix B gives a description on the various variables used in this study and also gives the sources of data.

Econometric Testing and model

Vector Error Correction Model

Usually, according to Asteriou (2007), in economics it is normal to have models where some variables are not only explanatory variables for a given dependent variable, but they are also explained by the variables that they are used to determine. Sims (1980) advocated that the Vector Autoregressive (VAR) is an alternative to derive multivariate equations. In a VAR model, each variable is treated as a priori endogenous and are treated symmetrically. The above framework is accordingly used to investigate the hypothesised link as, to estimate the outcome of Dutch Disease on the Mauritian economy, it is important to measure the impact of variables on each other both in the short run and long run.

The presence of a cointegration relation forms the basis of the Vector Error Correction Model (VECM) specification. The VAR model in which is in levels can suitably be reformulated into a VECM in rappings of first differences and levels without altering the value of the log-likelihood function since no compulsory limitations is forced on model parameters. The VECM is just a special case of the VAR for variables that are stationary in their first differences. Brooks (2002) mentioned that a cointegrating relationship indicates a long-term or an equilibrium phenomenon. However, since it is possible that cointegrating variables may diverge in the short run but that their association will return to what the results indicated in the long run. The base equation for VECM is as follows:

$$y_t = \sum_{j=1}^p \alpha_j y_{t-j} + \sum_{j=1}^q \beta_j' x_{t-j} + \varepsilon_t$$

Empirical analysis

Test for stationary and Cointegration

Dealing with time series data calls for a test of the time series properties of the data. The ADF and Phillips Perron test reveal that all variables are integrated of order 1. Even if individual variables are not stationary at level, which was the case in the above, the group of variables may drift together so that a long term or a cointegrating relationship exists among them. However, the variables must be integrated of the same order and greater than zero. On this note, the Johansen cointegration is applied which states that, if a group of time series data is integrated of the same order, then there is a long run relationship among them. Both the Max- Eigen test and the Trace test validate the existence of cointegration for both model specifications.

Since we have co-integrating equation from both tests, we can conclude that there is a long-run equilibrium relationship in the system of variables. The presence of co-integrating relationships between

the variables infers that the Dutch Disease variables in Mauritius are most capably characterised by an error correction specification.

Vector Error Correction Model

Since we found cointegration relationship in the Johansen test, this allows us to distinguish between short run and long run effects of variables. In this section, we shall consider and analyse, first, the REER equation and last, we will analyse the MEXP equation.

Long run and short run effects of REER equation

The above equation establishes the long run cointegration vector of REER.

$$\text{LNREER} = 20.12942 - 0.203303\text{LNFDI} - 0.106331\text{LNODA} + 2.049034\text{LNTOT} - 5.102600\text{LNOPEN}$$

Note: ** significant at 5%

All the independent variables are statistically insignificant in explaining REER except for OPEN which is significant. Of interest to this study, other things being equal, FDI has an insignificant impact on REER, and this suggest the nonexistence of the Dutch Disease syndrome which relates to REER appreciation. Such results are consistent with the past empirical work of Ouattara (2000) for West African countries for the case of a sample of Latin American country, Strobl (2004) and Ouattara & Strobl (2011) for West African Countries, Izquierdo and Montiel (2010) for a sample of Central American countries and Taguchi (2017) and Murshed and Rashid (2020) for samples of South Asian economies. Similar results are reported for the other foreign capital flow namely ODA which is found to have an insignificant relationship with REER. We can deduce that in the long run, the influx of FDI or any other capital flows does not impose any negative spill overs in the economy through the Dutch Disease. TOT exerts an upward pressure on REER. Other things being equal, 1% increase in TOT leads to an 2.04% increase in REER. As noted by Myrdal (2008), there is no systematic sign of relationship between TOT and REER. Also, OPEN is significant and 1% increase in OPEN leads to 5.10% decrease in REER. Adrino (2008) considered openness as a measure of trade liberalisation and stipulated that an improvement in trade openness will lead to a depreciation of the REER.

Table 2: Short run terms REER

REER EQUATION			
Dependent variable: LN_REER	Coefficients	Standard Error	Prob.
Adjustment Speed	0.119350***	0.023262	0.0000
Short run parameters:			
LN_FDI (-1)	0.005622	0.010510	0.5983
LN_ODA(-1)	-0.016901	0.016200	0.3087
LN_TOT(-1)	-0.126839	0.163907	0.4476
LN_OPEN(-1)	-0.312377**	0.144063	0.0418
R-squared	0.620119	Mean dependent var	-0.000854
Adjusted R-squared	0.421134	S.D. dependent var	0.044566
S.E. of regression	0.033907	Akaike info criterion	-3.655101
Sum squared resid	0.024143	Schwarz criterion	-3.110916
Log likelihood	72.30916	Hannan-Quinn criter.	-3.471999
F-statistic	3.116409	Durbin-Watson stat	2.177371
Prob(F-statistic)	0.012126		

Note : *significant at 1%, ** significant at 5%, ***significant at 10%

In the short run, results confirm the insignificant relationship between FDI and REER and thus do not indicate any Dutch Disease problem. In any ways, as indicated in the literature review, the REER appreciation should be permanent enough causing exports deterioration. The insignificant relationship between FDI and REER can be explained according to the study of Barry and Bradley (1997). They concentrated on determining the nature of FDI in many developing countries and small economies, analysed the effects of FDI on exports through REER' movements and concluded that most of the FDI was not export orientated.

As such, an explanation for this is that in Mauritius, FDI concentration is situated mostly in the real estate sector and financial sector. The Mauritian financial sector is a very well developed one and as such attract international companies that are willing to implant in Mauritius thus raising most FDI in this sector.

Even during the EPZ boom in earlier years in Mauritius, FDI in the manufacturing sector rarely exceeded 5%.

Also, our findings confirm the study made Nkusu (2004). He deduced in his study that when a country's capital markets are more developed compared to other sectors, which is the case in Mauritius, they attract international firms willing to branch out their portfolios via FDI and thus not affecting the elements in the manufacturing sector, including REER. Additionally, Edwards (1995) also found that while FDI might lead REER to escalate in the short run, its impact is diluted over time as part of the flows which leaves the country in the form of imports in the long run. That what explains the spending effect of Dutch Disease but was found void in our case.

Effectively, in the short run, ODA push down the REER but is insignificant though. This is because most development from ODA funds are credited to infrastructural development and managing government budget deficit in Mauritius. Rajapatirana (2003) specified that if FDI is extensive enough in comparison with other foreign flows such as ODA, it could pledge the negative upshot on competitiveness. In this situation, REER is representing the competitiveness of a country. Furthermore, OPEN imposes a negative relationship with REER as noted by Myrdal (2008). In the short run, a 1% increase in OPEN will lead REER to deflate and is significant in both terms as it is an indicator that stimulates an economy's international competitiveness.

Long run and short run effects of MEXP equation

The equation establishes the long run cointegration equation of MEXP.

$$\text{LN MEXP} = -19.75611^{**} + 5.389771^{**} \text{LN REER} + 1.730620^{**} \text{LN TOT} - 3.485188^{**} \text{LN OPEN} + 2.281054^{**} \text{LN INV}$$

Note: ** significant at 5%

All the coefficient of the variables is significant in explaining MEXP. The long run equation indicates that 1% increase in REER leads to a 5.39% increase in MEXP. This is not in line with the Dutch Disease effect because appreciation in REER is not leading to a decrease in exports but to an increase. This confirms the findings of Gupta and Chowdhury (1984) where a small REER appreciation may lead to an increase in exports because export manufacturers are powerful, big and profitable enough to sustain such a small effect. This is a similar case in Mauritius, where our exports producers are very powerful in terms of their volume of sales and the markets they target. This view is supported by the rapid expansion of Mauritian firms operating in South and East Asia. Also, from a competitiveness standing point, Mauritius has benefited a lot from PTA's which has helped local firms to secure their position in American and European markets. Also, for local Mauritian firm to sustain their growth globally, markets diversification showed resiliency, notably toward the European Union and regional markets like South Africa and Madagascar.

A more strong and convincing argument for the positive and significant relationship between REER and MEXP was brought by Alder and Dumas (1999). He put much emphasis on exporting firms using hedging techniques to reduce foreign exchange risks. This exposure is common for those who are engaged in international trade and hence they use derivatives such as forwards, futures and options. Therefore, despite an appreciating REER, MEXP skyrocketed instead because many firms, in the long run, found popular hedging techniques to secure their international transactions.

Other things being equal, 1% increase will lead to 1.73% increase in MEXP. A 1% increase in OPEN will derive a 3.49% decrease in MEXP. This is supported by Calderon (2003) where OPEN will have a more positive impact of imports rather than exports. This supports the situation in Mauritius where there is a major percentage of imports rather than exports. According to Hussain (2008) and De Gregorio and Wolf (1994), TOT always shows a positive sign in the case of small open economies. Other things being equal, 1% increase in INV leads to 2.28% increase in MEXP.

The government plays an important role in MEXP performance through policies pursued in respect of both the facilitation of private investment and their own investment programme. Emerging and developing countries often dedicate a higher % of GDP to investment in their country. Countries with speedy rates of economic growth severely invest in more fixed assets to empower sustained economic growth. In Mauritius, sectorial investment is more towards promoting its exports position. As supported by Solow (1956), when

a country does not receive FDI in a particular sector, an immense “push up” as means to welcome growth, with open importance are attached to fixed capital formation.

Table 3: Speed of adjustments and short run terms of MEXP

MEXP EQUATION			
Dependent variable: LN_MEXP	Coefficients	Standard Error	Prob.
Adjustment Speed	-0.166709**	0.056057	0.0072
Short run parameters:			
LN_REER (-1)	-0.510005	0.675928	0.4589
LN_TOT (-1)	0.669745	0.700938	0.3502
LN_OPEN (-1)	0.1571836**	0.576369	0.0126
LN_INV (-1)	0.252335	0.310169	0.4250
R-squared	0.617319	Mean dependent var	0.065229
Adjusted R-squared	0.416868	S.D. dependent var	0.178963
S.E. of regression	0.136662	Akaike info criterion	-0.867329
Sum squared resid	0.392205	Schwarz criterion	-0.323144
Log likelihood	26.31092	Hannan-Quinn criter.	-0.684227
F-statistic	3.079641	Durbin-Watson stat	2.305400
Prob(F-statistic)	0.012874		
Note : *significant at 1%, ** significant at 5%, ***significant at 10%			

Source: Author own work based on Eviews computations

In the short run, the speed of adjustment parameter of -0.167 is negative and highly significant and is approximately stable in magnitude. The results suggest that the variables return to a long-run equilibrium. Every year, the deviation is corrected by 0.167% to finally reach to its long run equilibrium. The relationship between REER and exports is negatively insignificant. In fact, the reform made to the exchange rate system of Mauritius and other measures taken in the 1990's, were designed to provide an incentive to our export sector to flourish which is in line with the findings of Sauer (2001). This hypothesis was also supported by Hooper and Kohlhagen (1978) who found no evidence of a significant relationship between REER and MEXP.

Under a managed float exchange rate regime, REER volatility is quite small and the ability to press down an appreciation is quite high compared to other countries which functions under a freely floating exchange rate system. This is also in line with the results obtained by Medhora (1990). As in 2012 the BOM started to arbitrate regularly in the foreign exchange market to prevent some major trading currencies, which forms part of the weighting of REER, from depreciation to soothe exporters' proceeds. Also, Sungupta(2013) stated that an exchange-rate policy that purely attempts to foil appreciation may fall victim to the so-called Penn effect, which briefly suggests that appreciation of REER goes hand in hand with growth and high performance in the export sector.

Other things being equal, an insignificant relationship was established between TOT and MEXP as well as between INV and MEXP. It is hard to measure the impact of public and private investment in the short run because the benefits accrue only in the long term. However, the theoretical impact of investment by both private and public sector on real exchange rate is ambiguous. It would be required to determine if the spending is oriented more toward tradable or non-tradable goods. As such, as noted in the long run equation, the relationship between INV and MEXP becomes positive and significant. In general, the R-squared is approximately 62% which indicates most variables fits the MEXP equation.

4 Conclusion and policy recommendations

Summary of Results

This study investigated the existence of Dutch Disease via FDI in Mauritius. It is expected that FDI would be translated in REER appreciation and as such hurting the exportation pillar. This study was carried for a period 1980 to 2019. If the spending of flows of FDI is left unrestricted, this might lead to undesirable

consequences such as the Dutch Disease. We modelled the Dutch disease syndrome into 2 equations to capture REER appreciation because of FDI and a decline in the manufacturing exports because of REER appreciation. Results from the analysis concluded that Mauritius has been able to avoid a huge REER appreciation following to an FDI boom and avoiding a contraction in its manufacturing exports. We found in our first equation the insignificant relationship between REER and FDI. This impact has been much counter back by huge outflow of foreign currency due to the volume of Mauritian imports. Mauritius is a country that have been effective in intensifying its exports pillar significantly by implementing alert exchange-rate policies, inducing a gradual falling trend in REER overvaluation.

It can also be deduced that the lack of FDI in the manufacturing sector in Mauritius has exercised weight on the government and the domestic sector to purchase technology via other means. For example, the purchase of latest production technologies, setting up joint ventures and vocational training. This is according to the study of Ekholm (2007) where he stated that FDI in other sectors can lead to export diversification directly because the government is forced to invest massively in the export sector. As such this eliminates the pressure of REER. Indeed, although FDI has been low, domestic private and public sector investment in the manufacturing sector has never been below 15 % of GDP since 1985 and has often been over 20%. Hesse (2008) suggested that export and market diversification assisted many developing countries in overcoming export instability, terms of trade shocks and foreign exchange instability, a view which was also documented by Ghosh and Ostry (1994).

Implications of the Study

To sum up, a small island like Mauritius has been going through the phase of modern industrialisation and it was decisive for policy makers to take care of a possible Dutch Disease effects. Though, we questioned if REER appreciation would be a source of apprehension for policymakers, appreciation of the REER might have a differential bearing on economic growth conditional on whether it replicates a balanced phenomenon. Thus, macroeconomic policy implemented by the policy makers should lay emphasis on circumventing overreaching and the outpouring of macroeconomic differences that possibly later become unsustainable.

However, policymakers usually face difficulties to evaluate if whether a certain shock, in our case FDI and the matching REER appreciation will be provisional or perpetual. If a permanent shock is treated as temporary by the local authorities and agree to mediate on the exchange market, they might suspend an inevitable and desirable macroeconomic modification, experiencing also in considerable quasi-fiscal charges due to sterilization. Furthermore, using fiscal policy will be an important tool to curb the Dutch Disease effects. De facto, extreme public expenditure has been a prevalent element of economic mismanagement of booms restricting from positive Dutch Disease shocks. It can also play a role not only by qualifying the “spending effect” associated with Dutch Disease but also pressing expenditures down to reduce output instability.

It is the policymakers’ job to safeguard that the welfares outweigh potential hostile effect on long-term growth due to a shrinkage of the manufacturing export sector. Spending FDI in an efficient and also to make best use of the benefits associated with the positive income shock is crucial to curb the effects of Dutch Disease. The optimum policy would be contingent, to some extent, on the type of shock behind the Dutch Disease. The features that entice FDI to a country rest upon the precise forms of FDI in question that is, export oriented, market seeking, or efficiency seeking (Cushman, 1985).

Those investments with positive supply side effects and that would lift productivity in non-tradable sectors could be helpful to guarantee that the increase in FDI does not hinder long-run growth. When discerning about “what to do” about Dutch Disease effects, policymakers should “beware of killing the goose that laid the golden egg. (Aesop’s Fables, 1912).

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Appendices

Appendix A – Exchange rate policy shifts in Mauritius

Source: *Mauritius, A Competitive Assessment, IMF Working Paper WP/08/212* by Patrick Imam and Camelia Minoiu (2008)

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Period	Exchange Rate Policy
1870	Mauritius swapped between Pound Sterling (gold) and Indian Rupee (Silver)
Between 1878 and 1934	A common monetary union was held with India where the legal tender was the Indian rupee. This decision reflected the inflow of Indian rupees with Indian immigrants to Mauritius
Throughout the 19 th and 20 th Century	Mauritius was almost linked to the GBP via currency boards
1934	Mauritius introduced its first own currency but still pegged to GBP through currency board
1967	The currency was still fixed to the GBP but dual forex market was held separating capital account transactions from current account transactions.
1972	Mauritius left the GBP in June 1972 and there was the creation of a central exchange rate with Special Drawing Rights (SDRs)
1976	The currency was pegged to SDRs with a 2% band
1979 and 1981	The devaluation of MUR currency occurred
1982	Mauritian rupee was officially de-linked from the SDR and pegged to a trade-weighted basket of the currencies comprising of key trading partners. This was done because the US dollar had the highest weight in the SDR basket and the appreciation of the currency caused the rupee to appreciate considerably and hence causing inflation.
1992	Exchange Rate Controls and restrictions were removed
1994	Capital Account fully liberalised

Appendix B – Data Sources and Descriptions

VARIABLES	LABEL	DESCRIPTIONS	SOURCE (Annual data)
REER	Real Effective Exchange Rate (Rs per weighted foreign currencies)	This is the same variable used to investigate the spending effect. Marquez (2006), Sheldon et al (2011) defines REER weighted average of a country's real exchange rate vis-à-vis its main trading partners' currencies. It takes into consideration changes in the purchasing power and competitiveness of the home country and selected trading partners. It's through the appreciation of the REER that the Dutch Disease phenomenon manifest itself.	International Monetary Fund
FDI	Foreign Direct Investment (% of GDP)	FDI is in real investment that boosts the supply of non-tradable goods through the FDI-associated spillover effects, the envisaged appreciative effect of FDI inflow can be reversed. Hence, the overall effect depends on whether the supply-side effects of FDI inflow prevail over demand-side effect of Dutch disease.	World Bank
ODA	Official Development Assistance (% of GNI)	Official Development Assistance are grants given out by official agencies and other states to promote economic development and welfare of developing counties. There is a convincing argument that the impact of foreign aid on the REER depends on what the foreign aid	Knoema

		Disease syndrome should experience a shortfall. According to Ozkan (2002), we can evaluate the competitiveness of developing countries mainly through their export performance. As such, this variable will indicate whether Mauritius has been able to avoid the Dutch Disease.	
INV	Domestic investment (% of GDP)	The Gross Domestic Fixed Capital has been taken as a proxy for INV. The impact on GDFC on MEXP is ambiguous. However, according to Al-Faki (2006), it would be necessary to determine if the public and private spending is oriented more toward tradable or non-tradable goods. Empirical studies tend to confirm that government expenditure is biased toward non-tradable goods.	World Bank

Restricted benefits of globalization

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Keywords

Globalization, Productivity ,Labor, Techonology ,Design

Abstract

Globalization word sounds as if each country is a part of the global village. The countries are forced to integrate with the global economy once they have given up command economy. The market-led-led economy has to be globalized to take advantage of the free movement of factors of production, technology, patents, design etc. The closed economies could not succeed in overcoming backwardness. Therefore, what was conceived in Bretton Wood slowly continued to gain acknowledgment. Finally, even though each country wanted to be communist at one stage, they saw better progress in globalization After remaining beyond the realm of, the countries had to fall in line. Globalization placed a condition that there will be excessive use of capital and labor if the two-way flow of goods and money happens. This is the reason that China grew up at the strength of work. But getting productivity from labor is not an easy task. In case it fails to deliver the output, the country's progress remains underachieved. Poverty and unemployment are still serious issues in India because labor could not be treated fairly. Therefore, advanced countries continue to enjoy the capital eco system in which education is also capitalized.

Introduction

Globalization by default is perceived from Keynes's idea about employment which is necessary for further development. He conceptualized the idea of the World Bank, IMF and GATT, the three world level institutions that were meant to assist the countries when there is a gap in the project capital, currency and trade. The advanced countries had made good use of the finances and work to develop them as strong as possible but the non-market economies which was yet to cross the rigid social obstacles could not freely integrate to advance . The economy the process is given a name called globalization. The capabilities of advanced countries on military front were also created e of time. The countries which will oppose the dictate of the military strong countries had to face the wrath. Vietnam has borne the brunt of the US because it did not want to follow the rules of market that would have suited the US. Hence, the war was unleashed. US had fought for almost 30 decades with USSR because two were opposite philosophy. Socialism in Asia is somewhat better than Communism in any other continent because the President's rule in Communism delivers either full fruit or leaves poverty unattended. Exactly it happened in USSR, and it happened in China as well. The split of USSR was due to the inability of the bloc to mitigate poverty and attain equality.

In China also poverty was horrifying before 1978 when restructuring was ordered. Many countries in Eastern Europe have transited to capitalism in the last three decades. There is a difference in the political administration between communist and socialist countries also. In the early days of establishing the UN, it must not have been visualized that how the conflict on territorial issues would be addressed. Say for example Ukraine wanted to move towards the western side but Russia still toeing the same line of USSR has bombarded Ukraine to its own peril. Globalization is a compulsion for Russia because in integrated world dollar is ruling the roost. The economy of Russia has collapsed because of the receipt and payment is blocked by the US. Russia which is still a non-market economy is mainly dependent on the natural resources in abundance. Therefore, it is rational not to bend towards a market system dominated by US and now fully or partially about 33 countries. As GATT was expected to facilitate the trade, it was very easy to constitute trade blocs which across the world are giving some benefit to the countries into the agreement. The formation of EU in 1973 has given immense benefit to the bloc. The individual countries were expected to follow their own fiscal rules. The tremors of 2008 were felt across the globe.

The turmoil caused in US had a ripple effect in the financial markets across the world. Unemployment situation and currency meltdown was the common scene in some countries. The level of debt had exceeded

100 percent which is not desirable. The emergence of WTO in 1995 has feared the countries to bring down the tariff rates but non-tariff barriers by the countries which had strong export position caused developing countries to manage with lowest export. Currencies across the globe are being devalued making import much expensive and hence the difference in inflation between advanced and the developing countries are making the capital inflow easier. Inflation is responsible for high fiscal deficit and current account deficit. In countries like India inflation is higher because there is flexibility in import of commodities which are suited for unprincipled reasons. The import substitution was though discarded but selectively it has been in operation. All the emerging economies are still labor intensive because of their demographic structure but all the advanced economies have managed to maintain their purchasing power parity and hence most of the times are enjoying low inflation rate and hence unemployment situation is not a problem. In developing countries unemployment is of varied nature. Education and employment cannot be aligned in India say for example where most of the population lives in rural areas where large number of people is working on casual worker basis.

Poverty in India is much higher because wages are not law based. These are paid as it suits to the employer. China with its political prowess has captured the strength in the labor therefore political dispensation not facing any resistance from the rival political party had created an environment whereby the labor was used appropriately. Investment in labor intensive sector and technology has been rapidly increasing due to which the export of all possible products could be made possible in all the countries including advanced and developing countries. Secondly China has been cooperating in building the infrastructure in adjoining countries like Pakistan and Nepal and maintaining territorial rights on Hong Kong, Tibet besides expending business in Sea. China has pushed up its growth rate to 12 percent since 1978 and the system build was so strong that growth rate could not be shaken like in India where the political parties, especially BJP, during the last 8 years has adopted a different model of development. The growth rate has been dented very badly by the government. But the other emerging economies which are expected to set right the labor, land and gender issues before they can expect the required growth rate. Treatment to capital which is the foremost requirement in globalization is conditional on the economic environment at home.

The crisis in pockets is widespread as countries try to understand how to handle the external sector. There was a south-east Asian crisis in 1997 because the countries expected the risky capital to be enjoyed. Still, being difficult, it could not have given the necessary return that the investor customarily expected. Since the market determined the exchange rate was not in place, capital fled out of these countries, creating a severe meltdown. The countries subsequently accomplished the changes in the financial structure. Since then, the countries in Southeast Asia have gained immensely. US is the epicentre of technology and innovation; sometimes, technology stock prices run so fast, leading to a bubble burst.

The Sub-prime mortgage crisis in 2008 benefited the people with housing, but the buyers could not repay the principal. The economy suffered heavy losses. US has been fighting the issues with every country like Afghanistan. Iraq and Vietnam have been burning trillion of dollars

s, but these are done to secure the economy and against aggression against by any country. China has been copying the technology developed elsewhere in the world. Therefore, it came up with tall to challenge even in US. Trump administration had banned imports and raised tariffs China has extracted too much of wealth from the land and labor finally, it has reached breakdown point. China basically shrewdly managed the economy without following the market principles in the financial system and the trade facilitation. One side, merchandise export and import restricted to raw material alone has made the economy too robust. The other developing countries p, particularly India w, were roiled in the internal issues of structural reforms leading to wavering growth rates what that neither helped poor tot rid of poverty nor to the middle class who could settle down at one level.

Reforms undertaken in 1991 without tweaking agriculture, labor laws and policy on the public sector have given limited growth options. The poverty level has increased manifold since then. The drawback in developing economies is that in order to cling to globalization, the necessary condition for following market tenets is not being tried until the end. The political allurements are making the leaders to build pressure on the limited financial resources resulting in the bottleneck of infrastructure due to which growth and civil life suffer. Capital flow is based on the infrastructure, labor efficiency and land

availability which are deficient and hence the benefit of foreign investment is not up to full potential. Smaller countries like Bangladesh and Vietnam have left behind India in terms of labor laws and structural reforms but they can never come at the level of India because of its huge population size. Per capita income in Bangladesh has outstripped India per capita income because labor has been identified as a crucial element in process of growth. India has huge informal sector which adds to growth but contributes very little in government finances, due to which poverty is still irresolvable.

Communist countries have no tendency to globalize themselves, but their trade with other countries is based on natural supply chains and requires no agreement. Whether globalization was conceived in 1944 by creating an environment of trade and mutual cooperation had taken into account the political structure of the communist countries appears to be defying the law of globalization and hence midway challenges have emerged. There is a clear between meant with China and Russia because of their resourcefulness. Nepal has started questioning India the occupancy of its land, because China assists it is building infrastructure though it is a sort of mutual cooperation. The situation in Tibet is still tense because China has full control over its territory. The war between Palestine and Lebanon is causing immense hardship to the civilian population. West Asia because of the difference in two sects Shia and Suni are prone to militancy. The poverty level in the globe is still problematic. In Africa poverty is alarming because the traditional means used there are not allowing the people to raise productivity. As the economies are progressing the Generalized Preference trade is also discontinuing.

Literature review

Ireland and hit (1999) view that the sovereignty of the individual countries that have integrated and become more open is jeopardized. These are following the team dictated by the advance countries .The globalization process is nothing, but the agenda of Washington consensus and an outcome one can see in equality in trade but rapid acceleration of knowledge and technological development.

Cornia and kiski(2001) have examined the data of inequality. Inequality has increased by 65% in 73 countries thing examined. Income inequality could not be explained with land concentration and urban bias .The potent cause of inequality could be shift towards skill intensive technology and domestic deregulation. Khan, Grffin, reskin(1999) have analysed the income distribution in urban China and the findings straight indicates the attribution to economic reforms policies, which forced the government to reduce social protection. Dreher(2006) pioneered a comprehensive Index of globalization based on the data of 123 countries .He is of view that if globalization is done with an economic and social perspective, then it can have a positive impact on growth, if done with political then there is no impact on development. Borensztein, De Gregor et al. (1998) have examined the impact of FDI on economic growth by entirely focusing on FDI and growth it was further that the products produced by foreign further reduce the cost of introducing new varieties of capital goods and hence the development comes with the increase the rate at which new capital goods are presented. There is a complementary effect between the stock of human capital and FDI , which also economic growth.

In economic Susman (2007) believes that globalization may be treated as the internationalization of increase involved of enterprises. The effect of globalization emerges from effect that there is figure for survival and continues to maintain market position .These compulsion force companies to constantly engage and explore opportunities for achieve competitive advantage and business opportunities outside domestic market.

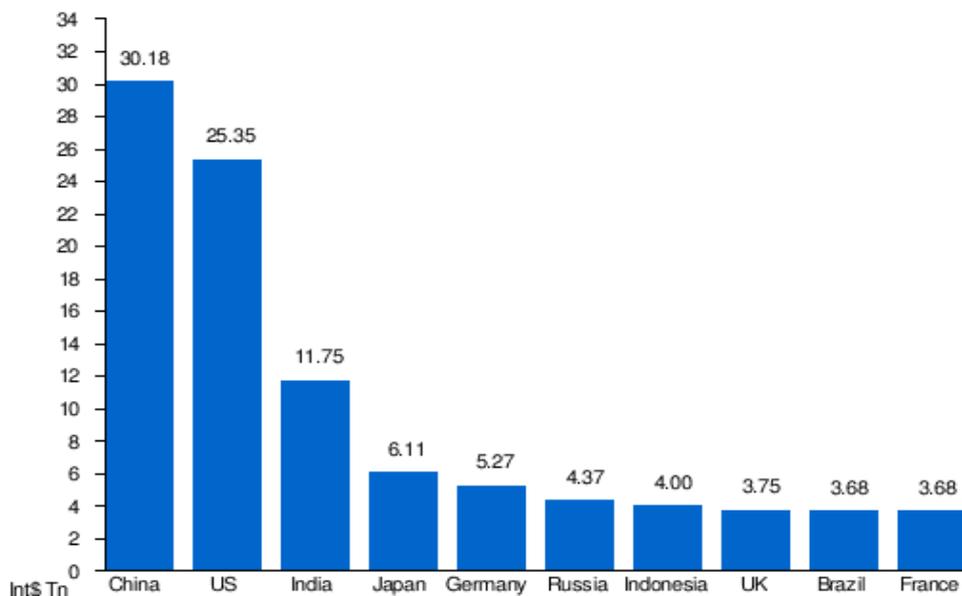
Methodology

This paper has been written with a view to summarize the benefits of globalization which have made the emerging market economist to advantage from the trade and Investment .Some light has been thrown on the issue whether the economies are facing the contagion effect experienced in the larger economies which have string firewalls to douse the flame of the hyper adverts in the technological corruption, particularly in USA, sometimes resent in bubbles building and then bursting has caused the devastating effect like dotcom bubble in 1938.USA has been experiencing a financial crisis during wars like the Vietnam and Afterwards, in Afghanistan, the political interest of USA weigh heavily on the financial health of the economy which has been seen by way of GDP ratio as well as unemployment .Japan is going through demographic transition and has been experiencing deflation for last more than two decades the overall

economy health of emerging market economist is also effected by enter adventurous or the demographic compensation of other countries.

Population of Japan (2020 and historical)

Year	Population	Yearly Change %	Yearly Change	Migrants (net)	Median Age	Fertility Rate	Density (P/Km ²)	Urban Pop %	Urban Population	Country's Share of World Pop	World Population	Japan Global Rank	
2020	126,476,461	-0.30 %	-383,840	71,560	48.4	1.37	347	91.8 %	116,099,672	1.62 %	7,794,798,739	11	
2019	126,860,301	-0.27 %	-341,891	71,560	46.7	1.40	348	91.7 %	116,322,813	1.64 %	7,713,468,100	11	
2018	127,202,192	-0.24 %	-300,533	71,560	46.7	1.40	349	91.6 %	116,521,525	1.67 %	7,631,091,040	10	
2017	127,502,725	-0.20 %	-260,540	71,560	46.7	1.40	350	91.5 %	116,693,276	1.69 %	7,547,858,925	10	
2016	127,763,265	-0.17 %	-221,868	71,560		46.7	1.40	350	91.4 %	116,835,097	1.71 %	7,464,022,049	10
2015	127,985,133	-0.09 %	-111,444	71,627		46.4	1.41	351	91.4 %	116,944,428	1.73 %	7,379,797,139	10
2010	128,542,353	0.03 %	43,247	55,516		44.7	1.34	353	90.8 %	116,741,034	1.85 %	6,956,823,603	10
2005	128,326,116	0.13 %	160,388	32,840		43.0	1.30	352	86.0 %	110,340,709	1.96 %	6,541,907,027	10
2000	127,524,174	0.18 %	231,738	-20,067		41.2	1.37	350	78.7 %	100,303,716	2.08 %	6,143,493,823	9
1995	126,365,484	0.30 %	372,049	9,257		39.4	1.48	347	78.0 %	98,593,178	2.20 %	5,744,212,979	7
1990	124,505,240	0.43 %	524,352	-59,668		37.3	1.65	342	77.3 %	96,298,507	2.34 %	5,327,231,061	7
1985	121,883,482	0.68 %	813,308	10,000		35.0	1.76	334	76.7 %	93,507,944	2.50 %	4,870,921,740	7
1980	117,816,940	0.94 %	1,080,716	41,001		32.5	1.83	323	76.2 %	89,755,553	2.64 %	4,458,003,514	7
1975	112,413,359	1.39 %	1,496,822	142,987		30.3	2.13	308	75.7 %	85,121,987	2.76 %	4,079,480,606	6
1970	104,929,251	1.28 %	1,296,450	164,541		28.8	2.04	288	71.9 %	75,417,163	2.84 %	3,700,437,046	6
1965	98,447,002	1.00 %	954,677	-30,270		27.2	2.03	270	67.9 %	66,812,422	2.95 %	3,339,583,597	5
1960	93,673,615	1.02 %	931,072	-20,000		25.4	2.17	257	63.3 %	59,269,408	3.09 %	3,034,949,748	5
1955	89,018,257	1.46 %	1,243,235	0		23.6	2.96	244	58.4 %	52,005,319	3.21 %	2,773,019,936	5



Largest economies in the world by PPP GDP in 2022 according to International Monetary

Findings

1) Globalization since 1944 was not something which was embraced by developing economies only G7 countries were operating at advance level .The other countries were expected to benefit from IMF, World Bank and GATT. Indeed, GATT was very helpful in promoting the trade but to a limited extent since 1980 the poverty and unemployment in Asia and below power develop in Africa. Forced some of the countries to think for more openness so that the poverty and backwardness could be reduced to as much as possible.

2) ASEAN of 10 countries has made rapid progress after formation of regional trade in 1944 because the integration had pooled the physical and human resources to generate the output which was expected to be fulfilling for the countries like Cambodia and Laos to take time to develop much later .The above average performance of Philippines, Vietnam and Thailand was possible because of forging of alliance .The same benefit could not be fruitful in SAARC IN SOUTH Asia because the political administration in Afghanistan ,Pakistan to countries of block is not favourable for economic development .The situation is so bad that SAARC meeting held in Pakistan denied by many other SAARC countries .

3) Sri Lanka was disillusioned by the foreign aid coming at the strength of Sri Lanka tourism and commodities like tea and other plantations but the casual approach by the premier of the countries lent the Sri Lanka in great trouble at this juncture IMF is not favourable to bail out the countries so spoil sport the crisis which has happened.

4) Even India could not be able to take benefit of globalization to large extent which cannot be seen to rampant poverty and unemployment in India .The economist blame the government they are not doing enough the required efforts for improving the domestic environment simply the large market which exist in India is made accessible to foreign products and investment.

5) From the data we have presented it is clearly seen that the advice of IMF is trusted to an extent that the economies in crisis need to set their house in order but the regular surveillance is not done by IMF regularly whereas WTO has been advising reducing in tariff but there is not advisory issued by WTO which are imposing high tariff barrier .The developing countries are not able to trade with the advance countries who need agriculture commodities like fruits ,meat etc, because they have imposed high tariff barrier of sanitary and non-sanitary requirement.

6) Though economies have been globalised, the extent of global warming due to the southern hemisphere long before is casting a heavy shadow on the progress of the northern hemisphere, starting after 1980.The global temperature has increase high and the people in these countries are facing the brunt of floods and drought earlier it was expected the advanced countries which are taking advantage

(Asia)Including India., but now they are coming to financial climate protection basically replacing non-renewable with renewable resources.

7) The heavy source of renewable energy, most of solar energy require lots of funds out of GDP because these countries already have low saving rates. These are deficit economies. On the whole there is clear decline between advances of developing economies the direct assistance appears to be very minimal.

8) The disgraceful feeling has been faced presently in Russia, Ukraine war where USA has imposed the distrusting the supply chain to vulnerable of Egypt, Turkey which are dependent on wheat from the largest countries which are fighting war .The commodities have prior to the war . The G7 countries are trying to secure themselves like alternative weapons loose ultra-modern policies and intermittent immigration policy. To keep the economist in healthy condition. In case the globalization the upper in the mind of G7 countries. They would have presented Ukraine to shift towards western economies, instigated by NATO countries the looser are developing economies.

Discussion

The emerging economies have been facing a deficit in growth, but capital flow is disconnected to real economic growth. The easy monetary policy at the time of crisis is forcing the investor to have more risk appetite and hence stock markets are flooded with money. It is the biggest reason for inequality in India. Very limited investors are enjoying the free capital coming from developed countries. Many countries still do not allow capital account convertibility because their internal health does not permit them to enter in the risky zone. There is a steep depreciation in currencies of many economies because of the external debt and deficits. China is one of the emerging economies that has chased the dollar and has built substantial purchasing power parity and a currency capable of challenging the dollar. It is possible because it has got a current account surplus. The real economy is also strong. In the last, eight decades dollar could not be challenged. Rather a dollar is not pegged to gold now. The foreign exchange reserves are maintained in dollars. But the countries whose currencies are depreciating indicate that export building measures are not very strong. Countries in South Asia do not even contribute 5 percent of GDP in the global GDP because there is hardly any agreement that binds them to develop the trade on the right terms. ASEAN has gone too forward, and each economy in the grouping is significantly better than the countries in South Asia.

Oil-producing countries are still enjoying the income from oil and hence till fossil fuel is replaced with renewable sources of energy, they will continue to make their income from fossil fuel. Trade blocks have been created within the continents to get mutual benefit from easy trade, but their progress is limited and condition. Mexico was added in NAFTA but the US in the bloc has been making fast progress in tech-based products. A country like Mexico is used only in traditional trade. US is a research-based economy; hence, patents and designs cannot be easily shared with other countries. Developing countries have made minimal progress in intellectual property rights and hence the trade is restricted to traditional products. While immigration was expected to be a rule limited opportunities had existed in the countries. The EU had been allowing immigration on an easy basis, but it was not finding favour in the UK. When Brexit took place, immigration was one of the reasons. In globalization, advanced countries have immensely benefitted from investing in developing countries, but it was mostly done to reduce the cost of production within their own country. To enjoy the full benefit of globalization, any country needs to have a proper training arrangement and a research-based environment. Educational standard is expected to be par excellent.

One important thing which has happened in the globalization is that services have outpaced manufacturing because of IT, digitization and trade. The financial sector in advanced economies is much stronger than in the developing countries, and it is also giving significant support when the economies are in doll drum. The black swan, even like Covid, which has raged the globe, has seen supply chain disruption and severe impact on the real economies. The poor health infrastructure in some developing economies has caused a lot of contraction, which cannot be recouped even in 10 years.

The developing countries could not maintain the basic social structure because their priorities are spending on physical infrastructure for all the investment needed for growth and foreign exchange. Ultimately the supply of vaccines was hard to get. Countries that lacked laboratories and had weak pharmaceutical systems had to depend on the other countries. Even the advanced countries were complex of any help for free vaccines. China is an ideal example for designing a development model good for

poverty reduction and employment, but it comes with political will. In recent days Sri Lanka has been facing a genuine economic crisis. Though it is a small island, under the guise of globalization, it has been getting external debt to manage its current account deficit. Some internal structural changes to reduce the cost of farming and fall in the tourism income had to face imports' denial, leading to power shut down and energy crisis. Small countries in the globalization come under the strain of the external sector and it is a straight set back. External debt is open to everyone, but the economies do not function up to the expected level. It makes the situation difficult.

After accomplishing structural changes, the emerging economies were really worth calling as globalized. These countries qualified for IMF assistance in the balance of payment situation, and these are freely borrowing on a commercial basis, but the trade balances continued to weigh down on the foreign exchange leading to a dent on economic growth. The rules of cooperation and guidance from the trading partner countries should be set right in case these countries are encouraged to maintain the trade balance. Developed countries could contain inflation because of the labor goods freely imported from the labour-intensive countries. However, in turn, developing countries face high inflation, unemployment, and poverty.

Globalization since 1944 was not something which was embraced by developing economies only G7 countries were operating at advance level. The other countries were expected to benefit from IMF, World Bank and GATT. Indeed, GATT was very helpful in promoting the trade but to a limited extent since 1980 the poverty and unemployment in Asia and below power develop in Africa. Forced some of the countries to think for more openness so that the poverty and backwardness could be reduced to as much as possible.

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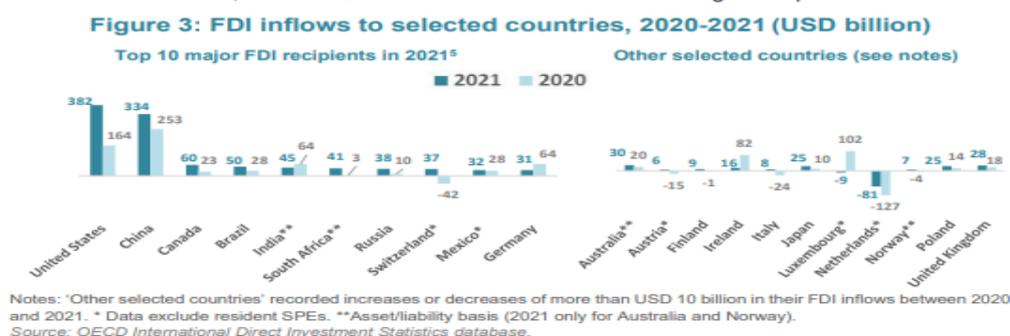
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GDP of top 10 countries year-wise

Similar Country Ranking	
Country Name	GDP Growth (%)
Egypt	3.57%
Sao Tome and Principe	3.09%
Vietnam	2.91%
Kiribati	2.54%
Bangladesh	2.38%
Uzbekistan	1.65%
Cameroon	0.73%
Pakistan	0.53%
Djibouti	0.50%
Lao PDR	0.44%
Ghana	0.41%

Foreign investment in top 20 countries year-wise



Trade-deficit of top 20 countries year-wise

Similar Country Ranking	
Country Name	Billions of US \$
Germany	\$223.82B
Singapore	\$105.83B
UAE	\$100.97B
Netherlands	\$94.60B
Switzerland	\$89.98B
Saudi Arabia	\$66.92B
Italy	\$65.83B
Ireland	\$49.02B
South Korea	\$47.72B
Spain	\$41.94B
Australia	\$35.07B
Poland	\$28.05B
Macao	\$28.00B
Denmark	\$25.73B
Luxembourg	\$25.59B
Qatar	\$25.28B
Sweden	\$22.02B
Czech Republic	\$15.09B
Austria	\$15.01B
Kuwait	\$11.45B
Oman	\$11.14B
Argentina	\$10.03B
Japan	\$8.66B

Growth in per-capita income of top 20 countries year-wise.

Eurozone	10733	40953	4.95%	2.92%	2.12%	1.94%	0.74%	1.09%	281.57%	2.34%	30.09 years
North America	17453	54261	3.21%	2.17%	2.27%	2.14%	0.73%	1.45%	210.89%	1.97%	34.8 years
East Asia and the Pacific	1283	10262	5.57%	2.9%	3.63%	2.49%	3.67%	3.70%	699.97%	3.65%	19.33 years
South Asia	332	1888	2%	0.67%	3.07%	3.19%	5.26%	5.21%	468.63%	3.04%	22.94 years
Sub-Saharan Africa	1115	1659	2.13%	0.94%	-1.56%	-0.64%	2.86%	0.63%	48.84%	0.69%	93.39 years
Latin America and the Caribbean	3708	9141	2.8%	3.5%	-0.58%	1.43%	1.94%	0.23%	146.53%	1.57%	41.55 years
Argentina	5605	10043	2.33%	1.33%	-3%	3.26%	2.3%	-0.42%	78%	1%	65.33 years
Australia	19306	56842	3.03%	1.36%	1.86%	2.13%	1.61%	1.11%	193%	1.87%	36.77 years
Austria	13031	50019	4.17%	3.49%	2.08%	2.19%	1.07%	0.82%	284%	2.35%	29.77 years
Burundi	214	210	2.16%	0.52%	1.66%	-3.6%	0.13%	-1.3%	-1.2%	-0.02%	2023.89 years
Belgium	13193	47166	4.28%	3.17%	1.9%	1.95%	1%	0.83%	262%	2.24%	31.37 years
Benin	520	897	1.12%	0.2%	0.27%	1.32%	0.87%	2.12%	72%	0.94%	81.61 years
Burkina Faso	238	712	1.38%	1.31%	0.93%	2.44%	2.85%	2.7%	198%	1.9%	37.97 years
Bangladesh	370	1203	0.93%	-1.45%	1.29%	2.46%	4.05%	5.55%	223%	2.04%	37.99 years
Bahamas, the	13895	27261	3.58%	0.58%	1.06%	0.63%	-1.21%	-0.53%	53.7%	0.74%	106.72 years
Belize	1072	4248	2.23%	5.53%	2.22%	3.02%	1.25%	-0.06%	302%	2.43%	27.82 years
Bolivia	1005	2559	0.66%	1.69%	-1.9%	1.75%	2.06%	3.42%	154%	1.62%	61.3 years
Brazil	3424	11026	3.23%	5.89%	-0.43%	0.95%	2.49%	-2.9%	222%	2.04%	33.73 years
Botswana	407	8031	5.59%	10.9%	7.4%	2.53%	2.51%	2.8%	1869%	5.27%	13.15 years
Central African Republic	601	379	-0.03%	-0.94%	-1.51%	-1.29%	0.82%	-5.14%	-3.1%	-0.78%	years
India	330	2104	1.85%	0.64%	3.26%	3.58%	5.85%	5.56%	536.21%	3.24%	21.43 years

Conclusion

The paper has examined some broad points. Prima facie it appears that developing countries had to face the impact of crisis during which their financial health also jeopardised. It takes longer time to correct the markets and trade. Consistent growth and stability are possible when these economies learn to become competitive. It is not very easy. What is needed is that financial support from IMF should be available when the economies face exceptionally bad environment.

The world bank has recently released a report wherein the pertinent observation is about the increase in the inequality in the income of the people in developing countries. The reason fight is that the dependence on technology over the year has increased significantly which is advantageous to the people who are better skilled but in some countries the concentration of wealth has taken place due to increased opportunities through financial sector and production sector.

The advanced economies are still restricting the trade of agriculture commodities because of the market price reduced by subsidies. The subsidies are very essential because the farmers in developing countries are yet to break the stalemate of traditional method of farming.

Still the patents and intellectual property are not resolved therefore the people in developing countries are facing hardships. MNC indeed are taking hold in the developing countries, but the people are not being the benefit of training and productive employment.

Limitations

Globalization is embraced by different countries for different purposes and they are benefitted differently. The countries which are good in stability of macroeconomic environment they appeared to have been benefitted significantly by way of investment and trade. The sub load data is difficult to collect larger benefits have been enjoying ASEAN and China of course advanced countries were the prime mover in the pal of globalization. India's position is of wavering native because of change in political ideology.

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The likely adoption of the IFRS Foundation's proposed sustainability reporting standards

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Keywords

Global Reporting Initiative (GRI), IFRS Foundation International Sustainability Standards Board (ISSB), Sustainability Accounting Standards Board (SASB), Sustainable Development Goals (SDGs), Sustainability reporting, Taskforce on Climate-Related Financial Disclosures (TCFD)

Abstract

There has been a rising demand for the global convergence of sustainability reporting standards (SRS) to provide consistency and comparability. The International Financial Reporting Standards (IFRS) Foundation has stepped forward, formed the International Sustainability Standards Board (ISSB) and proposes to develop a global set of SRS. These standards will focus on the financial impacts of sustainability issues and are targeted towards the investor. However, this approach does not align with the Global Reporting Initiative (GRI), the most commonly used sustainability reporting framework globally, which adopts a multistakeholder focus. This study aims to analyse the SRS currently being used by the Johannesburg Stock Exchange (JSE) Top 100 companies, the respective focus of these standards, and suggest whether these companies are likely to adopt the ISSB standards over the frameworks currently being used. A content analysis approach is adopted. The reports and websites of these companies are examined to identify the sustainability reporting guidelines and frameworks currently being used and whether these companies submit disclosures to reporting bodies. The results show that regardless of whether the ISSB standards are adopted, companies are likely to continue using the current frameworks to report beyond the financial impact of sustainability issues.

Introduction

Demand from stakeholders for transparency on social and environmental issues has resulted in the rise of sustainability reporting over the last two decades (Siew, 2015). This demand has surged due to the emergence of environmental, social and governance (ESG) investing and the robust performance of ESG compliant companies through the shock of the COVID-19 pandemic (Whieldon, Copley, & Clark, 2020). The need for sustainability reporting has never been greater. Sustainability reporting is now widely considered a critical component of corporate reporting by financial and other stakeholders (KPMG, 2020). Companies report on sustainability issues due to demands from stakeholders and the impact these issues have on long term company performance (Wachira, Berndt, & Romero, 2020). The majority of studies have concluded a positive relationship between company performance and sustainability reporting (Al Hawaj & Buallay, 2021).

Companies use various frameworks and guidelines to report on sustainability, each with a slightly different focus and objective. These frameworks can broadly be separated into two classes: those that adopt an investor-related focus by reporting on the financial impact of sustainability issues and those that adopt a broader, multistakeholder approach. The sheer number of available frameworks has often been referred to as the sustainability 'alphabet soup' (Adams & Abhayawansa, 2021). The use of different guidelines and frameworks has caused a lack of consistency and comparability across organisations (Jose, 2017). After consultation with various stakeholders, the International Financial Reporting Standards (IFRS) Foundation has stepped in to create a global set of sustainability reporting standards (SRS) (IFRS Foundation, 2021b). At COP26 in November 2021, the IFRS Foundation formally announced the formation of the International Sustainability Standards Board (ISSB). The proposed ISSB standards will adopt an investor focus on sustainability issues (IFRS Foundation, 2021a). This narrower focus differs from the multistakeholder approach adopted by bodies such as the Global Reporting Initiative (GRI). Therefore, this study aims to

analyse whether companies would adopt the ISSB SRS over the reporting frameworks they are currently using, given the different focus.

This study takes place in South Africa, where integrated reporting is mandatory for listed companies (Johannesburg Securities Exchange Limited (JSE), 2018), but there is no requirement to produce sustainability reports. However, integrated reports should incorporate a holistic view of the full range of capitals (International Integrated Reporting Council (IIRC), 2021), and therefore should include sustainability disclosures. Therefore, this study allows an examination of a reporting environment where integrated reporting is mandatory, but sustainability reporting is voluntary. Data was collected from the annual reports, sustainability reports and company websites of the JSE Top 100 companies. This study first determined which sustainability reporting guidelines are currently used by South African companies, and the focus of the standards adopted. Thereafter, the study explored how the introduction of the ISSB standards may impact the guidelines used by South African companies going forward.

The study finds that the most commonly used sustainability reporting frameworks and guidelines are, in descending order, the United Nations Sustainable Development Goals (SDGs), CDP (formerly the Carbon Disclosure Project), GRI, Taskforce on Climate-Related Financial Disclosures (TCFD) and the Sustainability Accounting Standards Board (SASB) standards. Due to the differences in focus between the frameworks currently being used and the ISSB standards, regardless of whether the ISSB standards are adopted, companies are likely to continue using current frameworks to report beyond the financial impact of sustainability issues. This conclusion would cast doubt over the efficacy of the ISSB's investor-focused approach in converging frameworks into one set of global standards.

By analysing the sustainability reporting frameworks currently being used by South African companies, this study contributes to the literature on the sustainability reporting practices of companies where sustainability reporting is voluntary, although integrated reporting is mandatory, by providing a unique insight into which frameworks are predominantly being used. Furthermore, by assessing the impact that the ISSB standards may have on the choice of frameworks that South African companies use, this study contributes to the limited literature on the ISSB standards. It offers regulators a perspective to consider when deciding whether these standards should become mandatory.

Literature Review

Existing Sustainability Reporting Frameworks/Guidelines

In some environments, there are mandatory frameworks or guidelines that organisations must comply with. However, where reporting is voluntary, there is great value in having access to a variety of reporting frameworks and guidelines of high quality (Tilt, Qian, Kuruppu, & Dissanayake, 2021). The following frameworks and guidelines are examples of those used in voluntary and mandatory contexts. The available frameworks and guidelines can be either investor-focused or multistakeholder-focused.

The investor-focused guidelines include TCFD, SASB and integrated reporting (IR). Established in 2015 to address the need for improved reporting of the financial impacts of climate change, the TCFD has a target audience of investors (Elalfy & Weber, 2019). These recommendations improve climate-related disclosures for investors to make more informed investment and capital allocation decisions (TCFD, 2021). The SASB provide industry specific standards to guide organisations on how to disclose the financial impacts of sustainability issues. The standards suggest indicators for reporting on three categories: environmental, social and governance. However, the extent of reporting on these ESG issues are limited to those most relevant to the financial performance of the organisation (Elalfy & Weber, 2019; Sustainability Accounting Standards Board, 2021). Therefore, the SASB standards focus on the need of investors rather than a broader range of stakeholders. The IR Framework by the International Integrated Reporting Council (IIRC) has the objective of providing investors with better information to increase the efficiency of their capital allocation decisions (Elalfy & Weber, 2019). The Framework focuses on the six capitals and their combined role in value creation over the short, medium and long term (International Integrated Reporting Council, 2021). The Framework is not considered a sustainability reporting framework; instead, it is a general framework that provides a reporting mechanism allowing companies to communicate sustainability issues to their investors.

Multistakeholder guidelines include GRI, CDP and the SDGs. Organisations use the GRI standards to communicate their impact on sustainable development. The GRI emphasises reporting both positive and negative impacts an organisation may have from environmental, economic and social perspectives. The standards allow users to report on material issues under these three main elements, focusing on meeting the needs of all stakeholders. Siew (2015) refers to the GRI's approach to reporting as a multistakeholder consultation approach. The GRI also encourages using other frameworks to supplement the GRI standards (GRI, 2020b). The CDP manage a database of environmental disclosures submitted by organisations. Using the reports submitted to them, the CDP scores organisations based on the disclosures of their environmental impacts. By providing this independent scoring system, the CDP claims to incentivise organisations to take action on climate and other environmental issues. Although the CDP is aligned with the TCFD, they focus more broadly on stakeholders, rather than only investors (CDP Worldwide, 2021). The SDGs were introduced in 2015 as a call to action for organisations to contribute to achieving these sustainable development goals through their activities (Tsalis, Malamateniou, Koulouriotis, & Nikolaou, 2020). The SDGs are often referred to as the 'blueprint' to achieving a sustainable future; therefore, many organisations use them as a guide for reporting on their sustainability-related issues (KPMG, 2020).

An increased need for global consistency and comparability

The few frameworks and guidelines introduced above provide a brief insight into the multitude of options organisations have for reporting on sustainability-related matters at the start of 2021. The use of different guidelines by organisations has resulted in a lack of comparability between organisations (Jose, 2017). The increased interest in ESG investing has highlighted the issue, with calls intensifying for fewer sustainability reporting frameworks (Adams & Abhayawansa, 2021). Various initiatives have begun taking place globally, including calls for intervention by the IFRS Foundation, the international body responsible for international financial reporting standards (Jose, 2017). After consultation with many stakeholders, the IFRS Foundation has engaged with the issue and concluded that there is an urgent need to improve the comparability and consistency in sustainability reporting (IFRS, 2020).

In a landmark announcement, the leading voluntary standard setters, the Climate Disclosure Standards Board (CDSB), CDP, GRI, IIRC and SASB, released a statement outlining their intention to work together in harmonising the corporate reporting system (Impact Management Project, World Economic Forum, & Deloitte, 2020). This is a commitment towards a joint vision of a more comprehensive and consistent reporting system. In the announcement the standard-setting bodies involved welcomed the idea of working with the IFRS Foundation to form a set of global SRS (Impact Management Project et al., 2020). Subsequently, the IFRS Foundation task force released a consultation paper on sustainability reporting to determine if a global set of SRS is needed, whether the IFRS Foundation should play a role in setting those standards and, if required, what the scope of their role should be.

In response to the feedback received by the public and stakeholders, the IFRS Foundation concluded that there is a growing demand for a global set of SRS and that the IFRS Foundation have a role to play (IFRS Foundation, 2021c). After a consultation period, the IFRS Foundation announced at COP26 in November 2021 the formation of the International Sustainability Standards Board (ISSB) to sit alongside the International Accounting Standards Board (IFRS Foundation, 2021a). In addition, it was announced that the Value Reporting Foundation (VRF) and the CDSB would be consolidated into the IFRS Foundation. The IIRC and SASB merged to form the VRF in June 2021 (Markham & Medress, 2020). The purpose of this merger was to contribute to building a more cohesive corporate reporting system. Both the IIRC and SASB focus on enterprise value creation (investor focus rather than broader stakeholder focus).

The IFRS Foundation formed a technical readiness working group to create the global set of standards. This group includes the VRF (SASB and IIRC), CDSB, TCFD and WEF. The group is also in close liaison with the GRI and CDP on technical matters. Therefore, all of the major standard setting bodies are pulling together to contribute towards the proposed global standards (IFRS, 2020). This signifies a significant step towards the convergence of sustainability reporting guidelines.

The IFRS Foundation's proposed global SRS will adopt an investor focus and are aimed at the impact of sustainability-related issues on enterprise value. The International Organization of Securities Commissions (IOSCO) supported the formation of the ISSB, and aims to endorse the standards once released (International Organization of Securities Commissions, 2021). However, this decision was not fully

supported as many stakeholders disagree with the notion of global SRS having solely an investor focus rather than a multistakeholder focus (IFRS Foundation, 2021b). It is argued that to report on an organisation's contribution to the SDGs adequately, the blueprint for sustainable development, it is necessary to adopt a multistakeholder focus (Adams & Abhayawansa, 2021). Adams & Abhayawansa (2021) also argue that using financial materiality to determine which sustainability disclosures to provide contradicts the GRI's view that sustainability reporting provides critical information informing the decisions of a wide range of stakeholders including employees, policymakers and investors (GRI, 2020a). However, in March 2022 the IFRS Foundation announced that the GRI would collaborate with the ISSB to align their multi-stakeholder standards with the investor focused standards of the ISSB (IFRS Foundation, 2022), which provides grounds for an end product that will meet the needs of all stakeholder groups, if mechanisms can be found that accommodate the double materiality of both financial materiality and societal materiality. The differing views on materiality are one of the key tensions between the two focuses (Hjaltadottir, 2022). Before the current developments, the GRI was still the dominant standard for sustainability reporting globally (KPMG, 2020; Lozano, Nummert, & Ceulemans, 2016). It follows a multistakeholder approach that reports on the impacts of sustainability-related issues that are not limited to financial impacts relevant to market participants.

The discussion above raises the question of whether companies would adopt the ISSB standards over the existing voluntary frameworks available (e.g., GRI), given the differing focuses. This study aims to analyse the South African context and assess whether companies are likely to adopt the ISSB standards over the frameworks they are currently using.

Theoretical framework

Notwithstanding the recent trends in sustainability reporting regulations, the practice of sustainability reporting is primarily still a voluntary act globally (Mion & Adai, 2019). Various theories have been used in the literature to explain the reasoning behind why companies choose to provide sustainability-related disclosures (Deegan, 2014; Fuhrmann, 2020). The most commonly applied theories are stakeholder theory, institutional theory, legitimacy theory and signalling theory (Hahn & Kühnen, 2013; Lakhani & Herbert, 2022). These theories intersect and overlap in some ways (Hahn & Kühnen, 2013).

Stakeholder theory, which is closely linked to sustainability theory suggests that organisations should play an active role within the society in which they operate (Omran & Ramdhony, 2015). The legitimacy of an organisation is closely linked to its relationship with stakeholders (Hahn & Kühnen, 2013). Legitimacy theory refers to societal expectations, whereas stakeholder theory narrows this down by referring to specific stakeholder 'groups' (Deegan, 2014). Therefore, organisations must be aware of stakeholder concerns, as addressing these concerns allows the organisations to continue operating (Wachira et al., 2020). Spence et al. (2010) found that stakeholder theory was described as the most helpful theory used to explain sustainability reporting in the literature.

Institutional theory refers to the formation of societal norms or expectations. Hahn and Kühnen (2013) refer to it as a phenomenon where an organisation's practices are performed based on institutionalised expectations rather than business rationale. Deegan (Deegan, 2014) proposes three 'pillars' that influence the institutionalisation of business practices. The *regulative* pillar, the *normative* pillar, and mimetic isomorphism. Mimetic isomorphism refers to the tendency of organisations to imitate the practices of other organisations that are seen as legitimate to attain legitimacy of their own (Martínez-ferrero & García-Sánchez, 2017). In the context of sustainability reporting, Hahn & Kühnen (2013) suggest that assuming institutional theory applies, the adoption of sustainability reporting practices would converge due to these mimetic phenomena.

Signalling theory suggests that organisations are incentivised to report information voluntarily to increase organisational value. The signalling theory has been used to explain voluntary sustainability reporting. Omran & Ramdhony (2015) found that organisations report sustainability issues to signal their superiority over others and compete for capital. This practice is especially relevant given the recent rise in ESG investing and capital inflow to ESG compliant companies (KPMG, 2020).

Method

This study aims to assess the alignment of the focus of the current SRS used by South African companies and the ISSB standards, thereby suggesting the likelihood of adoption of the ISSB standards. This study will first determine which sustainability reporting guidelines are currently being used by companies included in the sample, and the focus of those SRS. Thereafter, the study will explore if they are likely to adopt the ISSB standards.

A content analysis approach to data collection was adopted for this study. The annual reports, integrated reports, sustainability reports and company websites of the top 100 JSE-listed companies were examined to identify keywords indicating the sustainability reporting guidelines and frameworks currently used by South African companies and whether these companies submit reports to these standard-setting bodies. These locations are where most companies communicate their sustainability disclosures (Buhr, Gray, & Milne, 2014).

The top 100 largest companies on the JSE, by market capitalisation, as of 31 August 2021, were used as the complete sample for this study (Listcorp, 2021). The top 100 by market capitalisation serves as a proxy for the JSE as a whole, given that they account for approximately 97% of the JSE's total market capitalisation (EY, 2020). Data was collected during August and September 2021. From the reports of the 100 companies in the complete sample, 27 of them were 2021 reports, and 73 were 2020 reports. This inconsistency did not affect the study as the latest reports were required to assess the latest sustainability reporting guidelines used by the companies.

The keyword method used is similar to that used in Horne et al. (2020). In determining the keywords to collect the data, a sample test was conducted on ten JSE listed companies to establish keywords the author believes are most effective in identifying the relevant data. Upon completion of the sample test, the entire population of companies was subjected to the keyword search function for data collection using these keywords.

First, the use of the sustainability guidelines and frameworks released by bodies that have formed part of the IFRS Foundation's technical readiness working group (GRI, CDP, TCFD and the SASB) was analysed. These guidelines were chosen as companies currently using them would have to decide whether to continue using them once the ISSB standards are released, given that these bodies would have contributed to the development of the ISSB standards. SDGs were also analysed as the SDGs speak to a multistakeholder approach in contrast to the ISSB standards' investor focus. For each reporting guideline/framework, each company either satisfied the criteria (coded 1) by making use of this guideline or did not satisfy the criteria (coded 0) by not making use of this guideline in their sustainability reporting practices.

Second, the GRI, CDP, TCFD and SASB reporting bodies allow companies to submit reports to their databases. These reports would mostly be standalone reports that use the reporting guidelines offered by these bodies. A company satisfied the criteria (coded 1) by submitting reports to the reporting body or did not satisfy the criteria (coded 0) by not submitting reports to the reporting body.

The data collected in this study was analysed to determine the likelihood of South African companies adopting the ISSB standards over the frameworks currently being used. The data analysis included calculating the percentage of South African companies using each reporting framework, and the total number of frameworks used by each company was also analysed. The data was further analysed by classifying the reporting guidelines/frameworks into two classes, those that adopt an investor focus by reporting the financial impact of sustainability issues (TCFD and SASB) and those that adopt a broader multistakeholder view (GRI, SDGs, CDP). This classification will be used to determine how many investor-focussed frameworks and multistakeholder focussed frameworks each company is using. The average number of totals, investor-focused and multistakeholder focussed frameworks used was calculated.

Findings and Discussion

This study analyses the current SRS adopted by South African companies. The focus of the SRS, being either investor-focused or multistakeholder-focused is analysed. Various theoretical lenses are used in assessing the likelihood of the companies in the sample adopting the ISSB standards.

The percentage of companies using each reporting framework and submitting reports to the standard-setting bodies was analysed. Figure 1 presents the results.

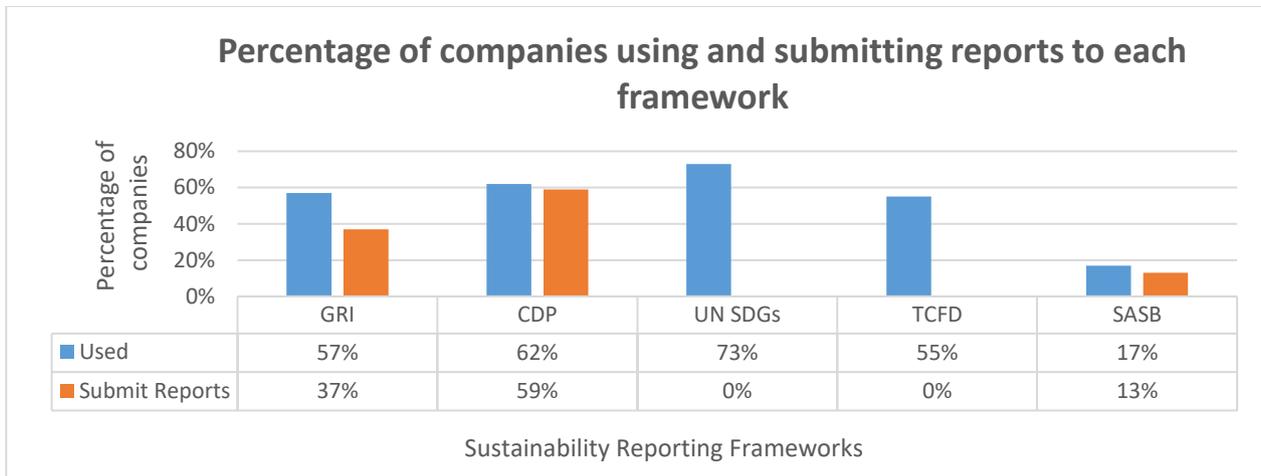


Figure 1 Percentage of companies in the complete sample using and submitting reports to each framework

Among the frameworks used in this study, the SDGs were the most commonly used sustainability reporting framework, with 73% of the complete sample using the SDGs in their reporting practices. This is expected as stakeholders have pushed for increased reporting on the SDGs. KPMG (2020) reported a 30% increase in the number of companies using the SDGs in their business practices from 2017 to 2020. The second most used framework is the CDP, with 62% adoption. This framework differs from the SDGs, focusing on reporting to the investor.

Surprisingly, the GRI was only adopted by 57% of companies in the study. This is somewhat unexpected as the GRI is often referred to as the 'benchmark' for sustainability reporting (Lozano et al., 2016). However, this conclusion was made before many of the current frameworks were entirely in use. It is also plausible that companies are using the GRI for general guidelines. However, they are not reporting in terms of the GRI standards and therefore do not mention the GRI in their reports. The nature of the collaboration between the GRI and the ISSB will need to be assessed as it materialises. The likelihood of companies moving from the GRI standards to the ISSB standards or using both will likely depend on how closely aligned they become over time.

The adoption of the SASB was low, with 17% of companies using these standards in their sustainability reporting practices. This lower adoption rate may be due to the SASB standards not being widely used in the region. According to SASB's data, only 0.5% of organisations using their standards are from the Middle East & Africa region (SASB, 2021). The SASB standards are American SRS initially developed for use by American companies. This provides context to the low adoption rate among South African companies.

The TCFD has a specific focus on climate-related sustainability issues instead of broader sustainability issues. 55% of companies in the complete sample use these guidelines in their sustainability reporting. This could be significant as the IFRS Foundation has emphasised their intentions to prioritise climate-related issues in developing their SRS. The TCFD recommendations will be used in developing the initial ISSB standards with a focus on climate-related issues (IFRS Foundation, 2021b). Therefore, companies currently adopting the TCFD guidelines may be more likely to be initial adopters of the ISSB standards given this alignment.

Of the frameworks analysed in this study, the GRI, CDP and SASB allow companies to submit separate reports to them using their frameworks and guidelines. Submitting reports to these bodies offers companies the benefits of increased exposure of their reports and an added level of assurance for the users (GRI, 2016). Therefore, companies currently submitting reports may not want to abandon these reporting frameworks for the ISSB standards. As shown in Figure 1 above, 62% of companies use the CDP guidelines and 59% report to the CDP. Therefore, 95% of companies using the CDP guidelines are also submitting reports. In contrast, 65% and 76% of companies using the GRI and SASB frameworks respectively submit reports to these reporting bodies. Most companies using these frameworks are also submitting reports, which may decrease the likelihood of these companies adopting the ISSB standards over the current frameworks being used. Even if the ISSB standards are adopted, these companies may continue to submit reports to these

bodies for the benefits of increased exposure and an added level of assurance. This will result in companies still using several different sustainability reporting frameworks – the dilemma the IFRS standards aim to eliminate.

Analysing the number of frameworks South African companies are currently using may inform whether they are likely to adopt the ISSB standards. The more frameworks a company is currently using, the more expensive sustainability reporting becomes. There are increased costs to gathering the information required to report using these frameworks. Therefore, companies are incentivised to adopt the proposed ISSB standards as a single framework, which will result in fewer costs incurred and an increase in the cost-benefit of sustainability reporting. Figure 2, below, shows that most companies are adopting at least two different frameworks for their reporting practices, with an average of 2.64 frameworks across the complete sample.

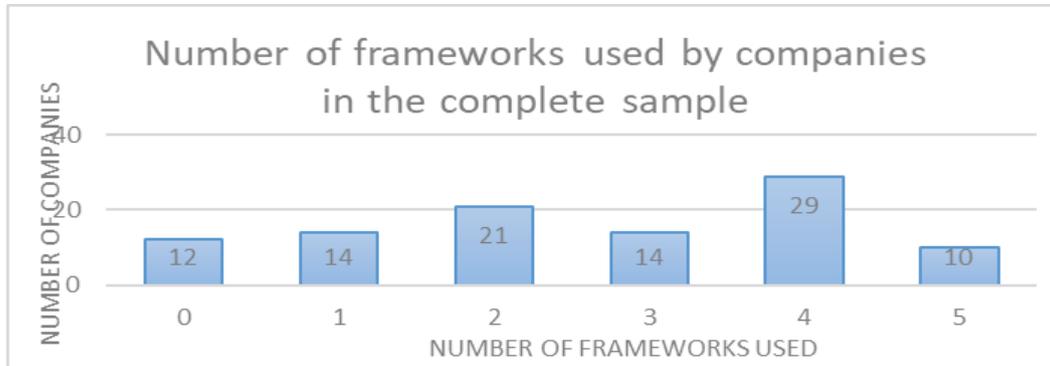


Figure 2 Number of frameworks used by companies in the complete sample

While there are potential cost-saving benefits from shifting to a single set of standards, this benefit can only be realised if the single set of standards sufficiently covers all the information currently being disclosed while using multiple frameworks. This has been a criticism of the proposed ISSB standards (IFRS Foundation, 2021b). According to the stakeholder theory, failure to provide sufficient disclosures could threaten the legitimacy of these companies if these disclosures are expected by stakeholders. Therefore, further analysis should be conducted before concluding that South African companies are more likely to adopt the ISSB standards for the cost-saving benefit.

The frameworks analysed in this study were split into two classes – those with an investor focus (TCFD and SASB) and those with a multistakeholder view (GRI, CDP, SDGs). The average number of totals, investor-focused and multistakeholder focused frameworks used was calculated for the complete sample. The results in Figure 3 show that, on average, each company uses 0.72 investor-focused and 1.92 multistakeholder-focused reporting frameworks. For those companies that used four frameworks the most common combination (79% of companies) was to use all of the frameworks except for SASB, which is investor focused. For those companies using three frameworks 92% used both CDP and the SDGs which are multistakeholder-focused, and only 43% used TCFD and none used SASB, which are investor-focused.

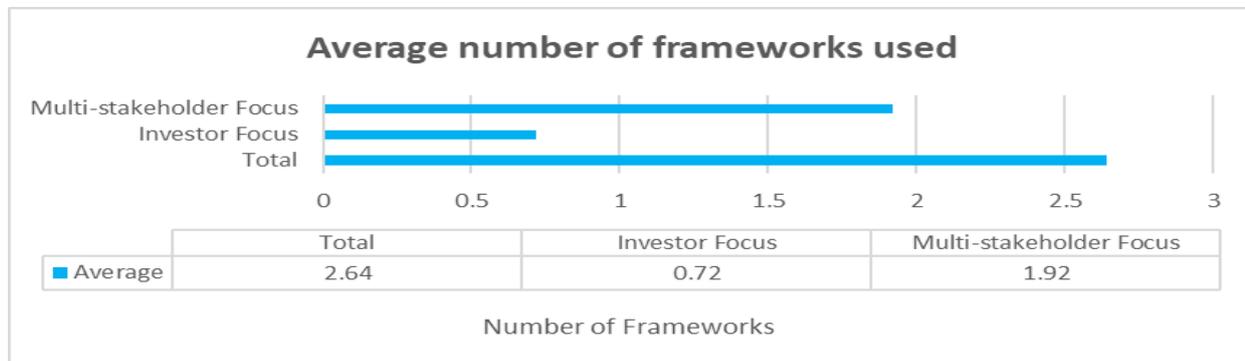


Figure 3 Average number of frameworks used for companies in the complete sample

This shows that companies may think twice about adopting the ISSB standards over the current frameworks, given the differing focus. This is compounded by some stakeholders already voicing concerns over prioritising investor-centric disclosures. There is a risk of losing legitimacy if companies adopt the IFRS standards and abandon the current standards with a multistakeholder view to reporting sustainability issues. Conversely, adopting the IFRS standards alongside some of the current frameworks does not solve the dilemma of too many reporting frameworks being used. It results in less cost-saving for companies as they will still use several frameworks.

The data was separated into two groups: Top 10 and The Rest, for further analysis. The Top 10 companies were the top 10 constituents of the FTSE/JSE Responsible Investment Top 30 index and therefore represent the leading companies in sustainability/ESG reporting in South Africa (FTSE Russell, 2021). The average number of the total, investor-focused and multistakeholder focussed frameworks used was calculated for both the Top 10 and The Rest. This was calculated by taking an average of the number of the total, investor-focused and multistakeholder-focused frameworks used by each company in the Top 10 and The Rest. This is presented in Figure 4 below.

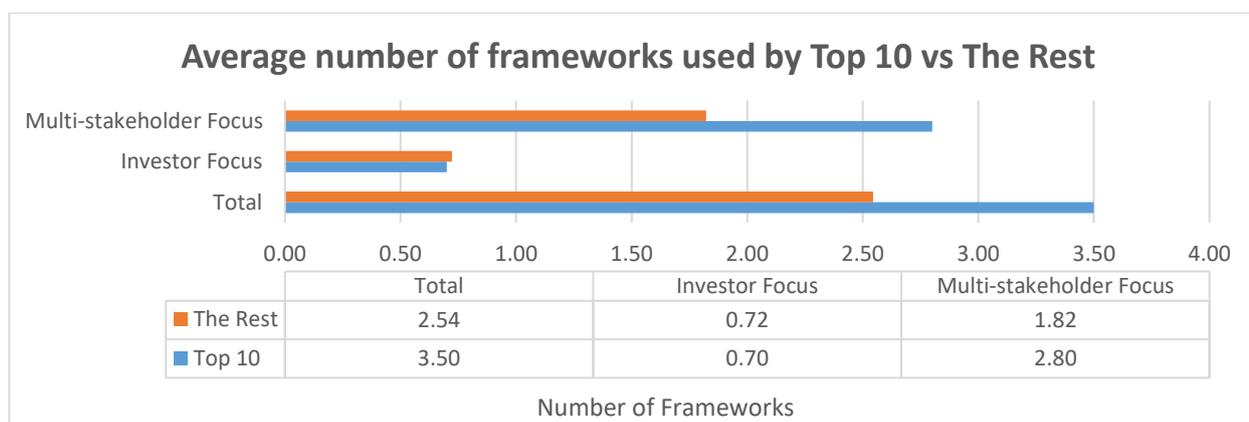


Figure 4 Average number of frameworks used by the Top 10 vs The Rest

Figure 4 shows that the leading sustainability reporting companies in South Africa, represented by the Top 10, are using more frameworks in their reporting practices (3.50) compared to The Rest (2.54). This may indicate that the leading sustainability reporting companies are less concerned with the cost saving of using fewer frameworks and instead are focused on the benefits of providing their users with more disclosures. Signalling theory could be used to explain why the Top 10 are adopting more frameworks. According to signalling theory, organisations may voluntarily report information to increase organisational value and signal superiority. The inclusion of these companies in the FTSE/JSE Responsible Investment Top 30 index may be evidence of their sustainability reporting superiority and contributes to their value.

Top 10 companies would want to maintain this superiority over The Rest. If they were to adopt the ISSB standards over the frameworks they are currently using, this standardisation may dilute their superiority and decrease their likelihood of adopting the ISSB standards initially. However, if the ISSB standards are adopted, the Top 10 may elect to continue using more frameworks than The Rest to maintain their superiority through providing more disclosure.

Furthermore, Figure 4 shows that while Top 10 companies use more sustainability reporting frameworks than The Rest, they also use more multistakeholder-focused frameworks. Eight of the companies used all three multistakeholder-focused frameworks (GRI, CDP and SDGs), and of the investor-focused frameworks, the TCFD was used by six of the companies, and SASB only by one. This further infers that the Top 10 are likely to continue to use other multistakeholder frameworks to sustain the multistakeholder reporting view while also adopting the ISSB standards.

Institutional theory can be used in discussing the likelihood of South African companies adopting the ISSB standards over the currently used frameworks. Institutional theory refers to a mimetic phenomenon where organisations tend to imitate the actions of other organisations that are seen as legitimate to achieve their own legitimacy. This is often referred to as mimetic isomorphism (Martínez-ferrero & García-Sánchez, 2017). According to this theory, the Top 10 group are seen as legitimate companies, given their inclusion in

the FTSE/JSE Responsible Investment Top 30 index and The Rest would imitate the Top 10 actions to achieve legitimacy for themselves. Therefore, using institutional theory, the actions of the Top 10 group are critical in the overall likelihood of the ISSB standards being adopted over the current frameworks. Top 10 companies will want to maintain their superiority over The Rest (signalling theory) and their legitimacy by satisfying the expectations of stakeholders (stakeholder theory). They may continue to use multistakeholder frameworks such as GRI to achieve this. As a result, The Rest will imitate this to maintain their legitimacy, resulting in the adoption of the ISSB standards, but with the continued use of other frameworks as well.

Conclusion

This study aimed to analyse the sustainability reporting guidelines used by South African companies while also analysing the possible impact the proposed ISSB standards will have on guidelines used in future. With increased calls for consistency and comparability of sustainability reporting due to the rise of ESG investing, the IFRS Foundation is developing a set of global SRS. However, the investor-focus adopted by the IFRS Foundation differs from the multistakeholder view adopted by the most popularly used frameworks and guidelines, such as the SDGs and GRI. This study analyses the South African context and assesses whether companies listed on the JSE are likely to adopt the ISSB standards over the frameworks they are currently using.

This study found that the SDGs were South African companies' most common sustainability reporting guidelines, followed by the CDP, GRI, TCFD and SASB. The results also reveal that most companies using the CDP, GRI and SASB frameworks are also submitting separate reports to these reporting bodies. Companies using the SASB standards are expected to change to the ISSB standards, given that the SASB has been consolidated into the IFRS Foundation. Furthermore, with the collaborations between the IFRS Foundation and both TCFD and GRI companies are more likely to adopt the new standards.

This study also found that, on average, more multistakeholder frameworks were used than investor-focussed frameworks for the complete sample. The results show that an even higher percentage of the frameworks used adopted the multistakeholder view for a group of leading companies in sustainability reporting.

Exploratory discussions informed by the data and sustainability reporting theories such as stakeholder, signalling, and institutional theory were presented to determine the likelihood of companies adopting the ISSB standards over the currently used frameworks. It was concluded that the actions of the leading sustainability reporting companies would play a significant role in whether there is widespread adoption of the IFRS standards, as well as the form that the ISSB standards take when completed. This study also concluded that due to the differences in focus between the frameworks currently being used and the ISSB standards that even if the ISSB standards are adopted, companies are likely to continue using current frameworks to report beyond the financial impact of sustainability issues.

This study contributes to the literature on sustainability reporting practices by concluding which frameworks are most popularly used by South African companies and theorising on the likelihood of adoption if the ISSB standards remain voluntary. Given the recency of these developments, this study also adds to the limited literature around the planned ISSB standards. It can provide insight to regulators as they consider whether these standards should be made mandatory.

Limitations and directions for future research

The complete sample consisted of the JSE top 100 companies by market capitalisation as of 31 August 2021 and was used as a proxy for the entire JSE. The sustainability guidelines used by these 100 companies may not represent the guidelines used by all South African companies. However, the JSE top 100 by market capitalisation accounts for approximately 97% of the total market capitalisation of the JSE (EY, 2020). The sources used to collect data for this study were the annual reports, integrated reports, sustainability reports and the company website. Of the analysed company reports, 73% were 2020 reports, with 27% being 2021 reports. This study can provide limited conclusions on the impact of the IFRS Foundation's SRS due to the continuously changing reporting environment. Further research could be conducted using interviews, articles, press releases to better understand the companies' view of the proposed standards. Further studies could also analyse the adoption of the ISSB standards once released, assess whether companies continue to

use their current frameworks to satisfy the multistakeholder view, and use different countries and contexts for this fast-paced changing area of study.

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The impact of leadershift on cultural agility policy: the search for effective way of mindfulness

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Keywords

Cultural Agility, Leadershift, Mindfulness, Organizational Behavior, Organizational Psychology, and Resilience in Leadership.

Abstract

To achieve an agile business culture, leaders must match styles with situations (leadershift). Such a goal can be acquired by utilizing special abilities and skills, such as Mindfulness. We tested such a framework of research to identify the role of Mindfulness as a personality trait that any leader should effectively utilize to achieve an agile organizational culture successfully. The variance model was applied by a cross-sectional survey on a sample from the Egyptian Post Authority to evaluate their success using the proposed tools in their latest era of significant changes. Findings reveal that Mindfulness is a compelling personality trait that facilitates leadershift, identified as shifting leadership styles with high flexibility to fit the situation. Such a trait helped the management of the Egyptian Post Office to achieve a thriving agile culture as a state-owned enterprise. Moreover, further implications were highlighted for practitioners and academic researchers to investigate the relationship profoundly.

Introduction

In a volatile business environment, leadershift is about coping with change in crucibles of international competition and deregulations of markets on both private entities and state-owned enterprises (Kotter, 2011). Cultural agility, in this sense, is crucial for businesses to compete in a complicated globalized world and is defined as the capacity to incorporate change in multiple scenarios and contexts (Caligiuri & Tarique, 2016). To successfully transform cultures towards agility, leaders need to use their abilities and skills in shifting between different styles to ensure maximum success. One hidden ability is Mindfulness which leaders can utilize to change the game's rules and enhance their flexibility of awareness in shifting between leadership styles (Smith, 2022). New updated forms of leaders' styles are the core force in redefining business models and even the meaning of business in public and private institutions. Employees' commitment to the transformation in leadership styles resulting from Mindfulness as a tool that creates social, collaborative, and virtual networking. Such new perspectives are clustered as mass participation, leading to new leadership models.

This study aims to emphasize the critical study of leadershift in styles of leading and its impact on cultural agility by exploring the essence of mindfulness as a tool in this direction. This study has both academic and practical contributions to literature. Academically, the study will introduce selected theoretical concepts and relevant research that serves as an academic and practical application to state-owned enterprises. Practically, it will serve to develop a typology for leadershift components using mindfulness as a moderator towards completing a smooth transition for change, paving the way to cultural agility achievement. Mindfulness will be explored practically as a guru behind problem-solving and decision-making when challenges pertain to the performance in any organization. Cultural agility is a crowning result of such efforts to smooth transition paths for organization members. The current research will test such typology in The Egyptian Post Authority, setting a context for the research. Therefore, the research aims to investigate the impact of leadershift on cultural agility policy, entailing the use of mindfulness to achieve the new normal phase for change. Two broad trends across the public sector have been previously observed by Boyne (2002): On the one hand, many organizations regard measures of engagement as the most significant measure of employee attitudes or experience reflected in the style of leading. While many organizations in the public sector include measures of engagement in annual surveys as a more general term to describe workplace approaches to improvement. In both cases, engagement initiatives are often linked to training and mentoring, having mindfulness as a tool for incorporating

leadership styles towards a more transformational culture. Leadership style initiatives depend on senior management style, corporate strategy, and followership related to the levels of trust and credibility found in the leading style and encouraging more cultural agile transformation.

On the other hand, task structure, discussed in the Fiedler model, encompasses the work environment and motivation levels of an engaging leadership style. Managers in this context come together to discuss employee engagement and share ideas for improvement (Boyne, 2002). Thus, the researchers will divide the main aim into the following research objectives:

1. Determine the association between leadership and cultural agility.
2. Test the moderating role of Mindfulness on the relationship between leadership and cultural agility.
3. Develop a guideline for state-owned enterprises on how their managers or leaders can use Mindfulness to enhance their leadership style-shifting and lead a thriving agile culture.

Literature review

The current research advocates a paradigm shift towards more application of the pillars of leadership towards creating more culturally agile state-owned enterprises able to capitalize on the strengths, values, and norms needed in times of crisis.

Global business enterprises are winning the future through their global leaders with the ability to match their leading style to the situation. In the light of the agile transformation worldwide in the concepts of leadership and the new Public Management strategic policies, this growth and shift in styles need mindfulness as a tool to deliver more culturally agile business units able to adapt and integrate into the new systems of global change and face adversities and crises. The importance of the research stems from the increasing number of employees working in the public sector in Egypt by "0.9%". Such an increase resulted from the government initiatives of several projects to decrease the unemployment rate to "7.4%" in 2021, which led to having "30" Million employees in 2018 (Daily News Egypt, 2022). According to Kiprop (2012), public organizations need oxygen tanks of leadership in styles toward more cultural agility to enhance high levels of productivity, motivation, creativity, and innovation. The path is not relevant anymore, where employees perform tasks systematically with no supportive and adaptive leading styles (Kiprop, 2012). The current literature will be structured as cultural agility, Leadership, and mindfulness to highlight previous studies that will help ground theories used to generate assumptions and develop hypotheses.

Cultural agility

Literature defines *Cultural Agility* as the knowledge, attitudes, and skills needed to effectively lead in a diversified community (Traylor & Caligiuri, 2019). Whether state-owned enterprises or private institutions, restructuring companies entails a change curve in both leadership positions and leadership styles. Adapting to a new shift in style requires a change in norms and a new mind-set.

Through the tool of Mindfulness, the leaders strive to learn to minimize differences and override diversity barriers to survive. The human resources department must embrace diversity and introduce change under the ceiling of the leadership styles. They are enhancing more strategies of cultural agility by working on talent management and convincing the workforce of the necessity of change. A laissez-faire style with high trust and credibility can be a weapon for imitating global perspectives of change rather than day-to-day administrative tasks to foster employees' results and increase performance. If leaders can trade cultural agility as a commodity, it would be the name of the game for the highest purchased and the most expensive (Ibraiz & Caligiuri, 2016). Moreover, cultural agility has three dimensions that will be the focus of the current research:

Cultural Integration: Such change requires the collaboration of all employees and top management to create a new approach to leading where top management must introduce change in the procedures and the relative behaviors, which will help in fostering rules for task-related interaction, engagement, and participation, where every individual will feel that he or she is a part of this change. The essence here is to compromise in negotiating the change, not ruling it, integrating decisions into the changing environment (Ibraiz & Caligiuri, 2016).

Cultural Adaptation: The employees adapt to new norms and differences in diversity programs related to their work. These need to motivate and persuade subordinates of different cultures to accept and train

different skill levels of their employees working on their competencies with a person-job fit. Cooperation is the essence of agility to adjust to people in different cultures (Ibraiz & Caliguiri, 2016).

Cultural Minimisation: Where the leader must act on leveraging differences for the benefit of change and control different skills and capacity backgrounds of employees into a melting pot, leaders can achieve this by listing the set of values expected from employees, codes of conduct, and minimizing autocratic style as only a ceiling of order. New norms overrule the expectations of others, and the employee here is needed to embrace his behavioral responses to change to face new cultural agility (Ibraiz & Caliguiri, 2016).

The effective use of these three dimensions above leads to cultural flexibility, according to Courtney (2016), where you avoid resistance to change. Advantages of cultural agility include widening the base for participation and engagement, having no more blind stagnation, and limiting stalling or postponing innovation to avoid risks where the team is on the wheel of creative assignments.

Additionally, it limits blind agreement in an autocratic style for advocating unilateral ideas and eliminates a lack of trust where transparency prevails in the new setting. Leadershift interferes here to provide fairness and equity benefits to promote the credibility of change, recognize team members, remove toxic employees, and engage the workforce in practice decisions. The leadershift in styles to induce change is the maestro of the game, where he has to be the best player and the trainer while coaching melting differences in both cultural attitudes. Such attitudes may include unspoken opinions that could be changed and cultural values embedding the principles that are difficult to change (Courtney, 2016).

The new paradigm of Global leadership change towards cultural agility entails the use of the two following variables to advocate the agility policy needed along with culture:

Cultural competence is the ability to participate effectively in professional intercultural integration to adopt change. The sum of behavior and attitudes will come together in a cohesive pattern to ensure the dimension of cultural adaptation (Green-Moton & Minkler, 2019). This variable includes several measurements to consider, which are:

Cultural curiosity, also called learning desire, occurs when organization members are interested in learning new skills, seeking updated information, and sharing knowledge with others to gain experience (Lee, et al., 2021).

Tolerance of ambiguity occurs when organization members have high flexibility in adapting to ambiguous situations and contexts of high risk (Lee, et al., 2021).

Relationship-building occurs when members share a strong relationship and have a high sense of engagement and commitment to the organization and its culture (Lee, et al., 2021).

Perspective-taking occurs when leaders and employees can look at different points of view and make a sound decision (Lee, et al., 2021).

Resilience occurs when an individual has a high self-efficacy and professional confidence in abilities and skills (Lee, et al., 2021).

Cultural humility is the ability to maintain an interpersonal stand to a lifelong commitment to self-evaluation to address imbalances and be open to other aspects of cultural identity, which aligns with cultural integration (Green-Moton & Minkler, 2019).

Leadershift

Leadershift entails the ability and willingness to change the leader's style to enhance personal growth positively and create a strong business culture. This concept aligns with the notion behind the Fiedler model for leadership (Hughes, et al., 2022), where leaders master the change of their style or the situational factors to enhance the change through several contingency dimensions:

Leader-member relations: degree of confidence, trust, and respect members have in their leaders.

Task structure: whether the task is structured or unstructured, specific, or general, the goals are achievable and clear or not.

Position power: leader influence overpowers variables such as hiring, firing, and salary increase.

The world is changing tremendously, which highly impacts the business environment rapidly. According to Maxwell 2020, to embrace change, the leader must identify different circumstances to employ the power of proximate purpose and embrace conversation in a necessary form to brainstorm about circumstances pertaining. Working from the edge of competencies to engage and decentralize authority, get loose from a past hindering change, and dig in a blue ocean strategically where turbulent waters are not the

danger but the calamity behind the storm (Maxwell, 2019). A historical shift in the '40s-'70s happened from business tycoons to leaders managing by results. In the '80-the '90s, another transition from these managerial perspectives to leadership perspectives started in 2000, a strategic agility movement towards understanding leadership core itself.

The essence of leadershift is to preserve core values and purpose while changing cultural and operational practices to align specific goals and strategies and engage in operational agility. According to Boyatzis, a leader shifts from autocracy to democracy to reach a Laissez-faire style leading by command and motivating patterns to embrace change. Hence, the leader requires high emotional intelligence to have high self-management and self-awareness, social awareness, and relationship management. Such intelligence will help leaders achieve positive emotional connectivity with him/herself and with employees (Goleman, et al., 2004).

On the other hand, the Resonant leadershift reflects a smooth transition from one status to another. Engaging others in shared meaning creates a distinctive, compelling voice and acts with adaptive capacity. Furthermore, this is the most sensitive and crucial of all as it is called applied creativity. This concept is defined, according to Bennis, 2018 as consisting of two essential qualities: the ability to grasp the context and the ability to face hardiness. The first has to do with perspective, and the second has to do with stamina, perseverance, and toughness. Leadershift plays a role of emotional vitality, emotional, compelling character for its leaders in the movement from shifting from one state to the other in the organization and emotional empathy to the followers. Leaders in shifting positions depend on the emotional bank account to enhance followers to be ready for change. They also depend on developing a bucket of interpersonal relationships needed for the shift. They develop what McKee called resonance, where a leader brings the best in everyone by stressing positive emotions (Bennis & Thomas, 2018).

The factors that play with leadershift impact include external systems around the organization, the internal system of the organization, and the internal system team. A leader must have the power to go to work and express the absolute best to do that. No one needs a title to do it and inspire and influence, giving a great example, and no title is needed for that to drive a position to change in the face of unfavourable conditions. Finally, a leader can level up in the organization, treat stakeholders with respect, and raise a positive organizational culture (Sharma, 2010).

If it is assumed in some reviews that the essence of leadership is made of crude substance, "90%" of leaders in an institution might produce cruddy results. The role of a transformational leader is finding the "10%" by investigating the reasons for declining productivity in the business. Philosophically these types of leaders search for simple solutions for complex situations. Their problem-solving technique is a critical analysis of all steps of the problem by flipping the coin towards more understanding of the true essence of their employees' motivation levels.

The type of leaders needed for leadershift is exponential leaders formed of entrepreneurial or social leaders. These interact with the four properties of leader shift envisioned in 4Is: Involvement, Initiative, Innovation, and Ingenuity (Woodward & Demille, 2013). In practical application, leaders can view the 4Is as follows: Stick to the strategy but shift in the right time to capitalize on the connecting points. Widening the scope of vision to see what others do not see and act decisively and give direction to take accountability. Finally, leaders should lead in their sphere of influence to persuade employees to perform to the utmost, creating responsive followership (Weir, 2015).

However, Leadershift fails if a leader fails to master the active constructive pattern of resilience training, missing the authentic, enthusiastic support turning into passivity, which is the lack of iconic support of behavior. A degree of dissonance results from an abnormal rhythm of change in the organization where emotions are invested negatively towards a dark side of the leadershift. The followers will turn into resentment, rage, and frustration, and the leadership cabinet will feel off-balance and discord. Dissonance in the leadershift process is the failure to anticipate change and embrace it positively. It impairs hope, happiness, and peace about that change in the organization. Leaders in this shifting loop yield manipulation and authority, which followers usually resist. Such resistance results in dismantled workplaces with no cohesiveness and a lack of empathy (Seligman, 2018).

The culture of leadershift in the organization is the support tool and weapon a leader creates to accomplish the change mission. The behavioral environment leads a strategy to live, creating a combination

of objectives aligned with strategy achieved by teams sealed by values of motivation to yield action. Action is the forward movement for leadership to succeed, and nothing without the action will make a difference in the movement. According to Owen, such action occurs through the IPA agenda, defined as ideas, people, and action. The idea implies setting the direction, crafting ideas, creating a perfect vision for the future, creating a team that believes in change, and managing performance before stating the actual performance tasks. People come in the loop of followership to make network work, good coaching, and manage difficult conversations. Then on top importance comes the action of realizing a dream to happen. The action is to manage the change process, master the craft, find help, be clear about the goals, and set up the change to succeed (Ibad, 2013).

Leadership is a transformational change of leadership patterns that helps identify and solve any decline in productivity, searching for simple solutions for complex situations. The different solutions to implement those stages, according to Flint (2019), are to keep the focus on the micro monitor without micromanaging and advocating the fact that change is inevitable while embracing loyalty from followers to embrace it. Bravery and courage to face the unknown future by acting proactively, decisively, and connecting the dots for a stable direction towards the pace of change. Involvement, initiation, and innovation are the inevitable properties that a leader must advocate at this stage (Flint & Hearn, 2019).

Moreover, Yukl Taxonomy also offered other attributes for leadership by creating a more comprehensive model. It includes three meta categories: task orientation, relations orientation, and change orientation. In addition, highlighting some specific leadership behaviors include planning, clarifying, monitoring, supporting, developing, recognizing, and influencing organizational culture (Yukl, 2002).

In contrast, the DISC model also offers a simple solution with profound results to learning how to identify the behavioral styles of others. Such identification helps leaders adapt their communication approaches to increase sales, assemble teams, target new hires, develop "rock star" leaders, and respond to problems and challenges.

D - Dominance: Direct and Guarded, Fast-paced and Task-oriented, Focuses on Problems & Challenges, Assertive.

I - Influence: Direct and Open, Fast-paced, and People-oriented, Focuses on People & Contacts, Persuasive.

S - Steadiness: Indirect and Open, Slow-paced, and People-oriented, Focuses on Pace & Consistency, Supportive.

C - Conscientious. Indirect and Guarded, Slow-paced and Task-oriented, Focuses on Procedures & Constraints, Analytical (Yukl, 2002).

This tool for assessing behavior carries a background of several driving forces embedded with values, such as knowledge expressed in cognitive and intellectual behaviors. This utility is parallel to the use of resources, the power which is the essence of commanding the shifting styles of leaders, and the various structured methodologies to assess behaviors. In assessing the behaviors of leaders in the process of shifting a style of management, several personal skills have to be looked at, such as the core competencies of appreciating others, emotional intelligence, continuous learning, conceptual thinking, coaching, negotiation, teamwork, time and priority management in crisis, personal accountability, futuristic thinking and exponential capacity building, and resilience (Yukl, 2002).

One of the recent attempts to touch on the basics of leadership is the DEAD model by Gobillot in 2009, and it is considered the death symbol for traditional leadership. This model reflects more participation as the new trend where an adaptive form of leadership and an authentic one is the basis for assessing the shift from Mindfulness to more cultural adaptation and integration. The new model calls for securing engagement, alignment with organizational goals and employees' needs, accountability, and commitment. The DEAD model is a crucial insight explaining that the need for a shift in the way managers lead is based on four vital societal trends or challenges.

The D stands for demographic trend for experiencing a variety of socio-cultural backgrounds, individual shared experiences and beliefs, and a mirror to engagement. The E stands for expertise which is the core of the combination of knowledge and a nest of relationships. Suppose a leader wants the company to succeed. In that case, it must gain control over knowledge by technology and expert power – a stand for attention where a social and informational network group replaces the old organizational structure. Finally,

the D stands for democratic trend where the leader must align and engage with no more rigid hierarchies with direct reporting.

The organization that Gobillot advocated through the DEAD leadership model is a matrix that involves all members from top to bottom to share in the decision-making process to ensure inclusion and fairness. The motivation patterns are shifting towards avoiding the carrot and the stick famous motivation framework to invest more in human resources focusing on skills (Gobillot, 2009). Additionally, in Smith (2020), traditional leadership is disappearing in the new turn of the century, and high levels of emotionally intelligent that put wisdom before knowledge and expertise and put interpersonal relations above initiating the tasks are highly needed (Smith, 2020). Further, according to Ibad, 2013 the leadership movement must move from directed plans to narration where participants are more aware of the social process demands. Hence, the responsibility for change is faster and more efficient. Moreover, the employee must move from a defined role to a specific task of self-fulfillment, matching his capacities and skills to flourish in his career. The core lies in shifting to more simplicity to present coherence and encourage interdependence and commitment (Ibad, 2013).

Mindfulness

Shifting styles lead to shifting procedures and modes of leading under the umbrella of several components: the ideal self, the authentic self; the learning agenda; mastering Mindfulness as a moderating tool, and finally, developing trusted leadership in a renewed form of cultural agility a result driving for change. The new shifting leadership model calls for more secure engagement, alignment, accountability, and commitment. In this sense, the notion of Mindfulness entails a loosening control mechanism and an influential interdependent leader together with a self-aware community of employees. Such skills entail a mind shift from a polarized attitude to fostering a climate of innovation where appreciating that things can be done differently in multi-cultural contexts. The movement from mutual distrust and unwillingness to reach out and cooperate to collaboration and mutual understanding for discovering new ideas and brainstorming common interests is crucial at this stage. According to late professor Mark T. Jones, 2020 the leader is moving from the "us" mentality to the "them" mentality (Jones, 2020). The idea advocated by Jones is moving from passiveness in reactions to proactivity in actions. Such perspective paves the way for more cooperation and adaptation moderated by Mindfulness. When Mindfulness as a policy or moderating tool is used towards achieving more cultural agility, leaders must shift their mental construct and followers to accept the change and understand that collaboration does not mean capitulation. Exponential types of leaders who venture outside their box of a comfort zone to survive are the same ones who get out of their silos using the policy of Mindfulness to reach the results.

Leadership here will be the independent factor that works as a fast forward to future change. Only at that time will deficits be mended. Not only will strengths participate, but skills along this side of Mindfulness will also shift from a capacity-building of knowledge and expertise to a more comprehensive shift for more entrepreneurship, agility, and accountable self-aware employees (Carter, et al., 2021).

Leadership in this context aligned with Mindfulness falls in managing the meaning of situations, conflict resolutions offering a novel way to interpret and react emotionally. The mirroring effect occurs here when the psychological impact is the same as the leader connecting to followers. Their actions start to be parallel, their reactions as well. They develop a magnet of a sphere of attraction as if they are floating in an orbital circle but harmonious.

At this stage, Mindfulness interferes here to make the following equation as a help and support tool for this leadership action to happen: the vision + need + capacity to change + first steps are more prominent than the risks and costs of change. According to Goleman, Leadership commands fall into four discoveries involving Mindfulness in an emotional context: (Hirst, 2019).

Individual authentic self = these match self-awareness and self-management.

Individual learning agenda = relationship management.

Leaders are practicing feelings to the point of mastery = self-awareness.

We are developing supportive and trusting leadership = social awareness.

Mindfulness is also an interplay between biology and psychology, where research must touch on the neuroscience of leadership. It depends on how the brain works, starting with the cortex, the outer layer, and

the neural tissue responsible for cognitive understanding. Then comes the limbic system, which handles emotions and behavioral responses, and finally, the reptilian brain part. This limbic system must control the body's vital functions, such as heart rate, breathing, body temperature, and balance. It is concerned with decision-making based on old experience stored if the problem is structured. The gift in prudent management is in the heal-reboot and the reset steps, where the employee starts to ask questions like what is in it for him/her and why, and then what should the leader do differently to get it done for us? The leader interferes with inducing the culture of trust, which impacts performance and productivity to increase retention. A smooth path of change reflects the mixture of the reptilian brain, the experience, and the limbic system that handles emotions. The reptilian brain is crucial in decision making where survival is most important using the cortex, and the limbic, on the other hand, helps in reviving the sub-conscious. The leader must heal the heart, reboot the head, and reset the hand (Nour, 2020).

The discussion above relates feedback with the impact model called BIFF. It investigates employees' behaviors and how it impacts their feelings after the feedback and the future action that needs to be advocated. The complexity lies within the success of a leader to give feedback and alter actions towards the behavior of change; otherwise, gaps will be created. The role of HR is crucial here to create regular meetings, a constructive feedback agenda, a code of ethics, and flatten the organization structure to enhance engagement. The break of the taboo for destructive feedback in a critical way is the sealed result of the success of the transformation by the top management.

Another model to look at Mindfulness is the SCARF model: where the S stands for status, looking at the relative importance of people, the C for certainty, which looks at the ability to predict the future, and the A for autonomy which looks at our perception of having control over our environment, the R for relatedness that looks to the relationships and the sense of fitting in high cultural awareness of belongingness, and the F which looks at the perception of being treated fairly in a standard way.

The two frameworks of mindfulness act as brokerage channels to connect employees within the loop of shifting leadership styles towards more cultural agility to enable access to novel information and structural change in the organization (Smith & Mannucci, 2017). Failure in achieving mindfulness results in a lack of neurodiversity strategies where career-killing for both a leader and an employee becomes a definite result instead of creating culturally agile organizations.

Leaders unaware of Mindfulness discard the neurodivergent thinkers as outcasts and bury their talents for decades. They might fall into the trap of dark leadership where disorder, disease, and dysfunction happen to the organization (Fitzell, 2021). The Broaden and build theory presented by Frederickson, 2013 in the context of positive psychology can help manage the challenges of mindfulness failure. Leaders must balance positive to negative emotions appropriately to generate novelty for change advocacy. The positive emotions broaden awareness and build structural support by developing competencies rather than correcting weaknesses. The theory created an emotional label aligned with the mindfulness growth in recent studies inside the organization where motivation goes in parallel with what each need at his or her own pace. Therefore, an appreciative leadership style should align with the appraisal theme through benefits if one is motivated by gratitude.

As a result, this will be the neurological motor sensor that motivates his or her work. Employee engagement resulting from the correct motivational program is meaningful work and a positive energy state (Frederickson, 2013). In this direction, employees must avoid overusing strengths in various areas. They must focus on the necessary change administered by the leader to integrate efforts towards achieving the transformation needed (Kaplan & Kaiser, 2009).

Cultural agility and Mindfulness

Cultural agility depends on a leader who walks the talk of change in parallel with his employees. It is not a simple speech to declare novelty and leave them in the grey area of communication where the path for change is unclear and does not align with their personal self-development goals. Mindfulness interferes here in the context of the emotional intelligence traits of a leader, which are crucial for change. Therefore, the talk that the leader is expected to issue highlights. There are three awareness competencies to win the agility needed: Self-Management, relationship management, and task management. The result will be a workforce expected to tolerate ambiguity, build relationships with co-workers from different backgrounds, and respond to changes in task structures. *Mindfulness* is a tool used by top management to pick the suitable

mode for change. According to Arinya, 2020 the three awareness factors mentioned above must be allocated at the correct timing for change. Employees are in the high activation mode, learning skills, integrating ideas, and setting priorities. The high mode offers a person ready to widen the scope and endures personal resistance based on the motivational plan chosen by the leader through on-site training based on experiential learning. The peak performance results from the convincing power of the leader to convince the employee to work on his or her energizing skills in integrating organizational goals with knowledge acquired through training and building experience (Arinya, 2020).

Based on the previous literature, two alternative hypotheses were derived to test the relationship between leadershift and cultural agility through the effective utilization of mindfulness as follows:

H1: There is a significant relationship between leadershift and cultural agility.

H2: Mindfulness moderated the relationship between leadershift and cultural agility.

Research Methodology

The current research will combine two data collection tools: a business case study and a questionnaire. The case study will provide a context of a public state-owned enterprise-facing rapid changes in leadership styles, processes, and activities. Hence, the chosen business is the Egypt Post Authority because a leadership change occurred. The Chairman, Dr. Sherif Farouk, made a massive change in the business' organizational structure, business strategy, operational activities, and services. One crucial aspect of change was a culture change, including cross-culture factors, requiring special skills and abilities to adapt to such changes. Such context serves to investigate how shifting leader styles can impact the agility of culture using Mindfulness as a vital skill for adaptability. However, to overcome the limitations of case studies, another tool will be used to determine the association between variables (Dossick, et al., 2011).

Moreover, the additional tool is a questionnaire that includes items related to the three variables of the study. The questionnaire was created and provided to the Egypt Post management for approval, and it was conducted physically inside the Cairo branch. Thus, the sample was randomly selected to reach a diversified group of managers and employees. The sample size was determined to be (n=110) for the current research. After determining the participants, out of the 110 employees, 43 were females, and 67 were males from different departments and holding different positions. At the same time, 68% of employees and managers are aged 44 and above, while 31% are aged 31 and 43.

On the other hand, only 1% of employees in the sample are aged between 18 and 30. Such results might indicate a challenge in adapting to the agile culture resulting from leadership change. Thus, this study used simple random sampling to give all individuals in the population an equal chance to participate. This sampling technique will decrease bias and increase the reliability and validity of data (Li, et al., 2017). On the other hand, the sample size was chosen based on past researchers that recommended having a minimum of 25 participants per variable (Elston, 2018). The questionnaire was a 5-point scale that depended on self-evaluation. It included a page where the research idea, aim, and questions to explain the research. It also explained that the data collected will be 100% confidential. The CEO will not have access to any data, managers, or other employees (Deary, et al., 2005).

Findings and Results

Construct Reliability and Validity	Cronbach's Alpha	rho_A	Composite Reliability	Average Extracted (AVE)	Variance
Cultural Agility	0.649	0.836	0.787	0.562	
Leadershift	0.671	0.718	0.811	0.592	
Mindfulness	0.624	0.630	0.796	0.565	

Table 1: Construct Reliability and Validity

The previous table shows that all convergent validity criteria are met. It is clear from the value of Composite Reliability, which was within the acceptable limits, greater than or equal to 0.70 for all axes of the model. We also find that the Average Variance Extracted (AVE) value ranged from 0.562 to 0.592, which is around the acceptable limits. It is greater than or equal to 0.50, which clarifies the model's axes.

- Discriminant Validity:

The Fornell-Larcker Cross Loadings criterion was used to identify the degree of overlap to measure the differential validity of the model axes. Cross Loadings is used to find out the degree of loading the ferry on the axis, or in other words, is the ferry related to the axis it represents or not. It is also that the degree of loading the ferry on its axis must be more significant, and the degree of its bearing on the other axes is weak. When the degree of the ferry is loaded on more than Axes, there is an error in the scale.

Fornell-Larcker Criterion	Cultural Agility	Leadershift	Mindfulness
Cultural Agility	0.750		
Leadershift	-0.204	0.770	
Mindfulness	0.519	-0.260	0.752

Table 2: Discriminant Validity: Fornell-Larcker Criterion

The previous table for testing shows that the value of the study axes' overlap with themselves is more significant than their overlap with other axes. Thus, the model scale has discriminatory honesty.

	R Square	R Square Adjusted
Cultural Agility	0.274	0.261
Mindfulness	0.067	0.059

Table 3: R-Square and R-Square Adjusted

This scale is used to measure the explanatory power of the independent variables. When the value of R Square is less than 0.1, the model is not fit; from 0.1 to 0.25, the explanatory power is small. In contrast, when it is 0.25 to 0.36, the explanatory power is medium, and the explanatory power of a model is high when it is more significant than 0.36.

Fit Summary		
Model_Fit	Saturated Model	Estimated Model
SRMR	0.117	0.117
d_ ULS	0.620	0.620
d_ G	0.193	0.193
Chi-Square	131.321	131.321
NFI	0.407	0.407

Table 4: Model Fit

The last criterion shows the model's goodness of fit. The most important of these criteria is NFI, where there are limits to accepting and judging the overall quality of a model. When its top is more significant than 0.20, the model has a reasonable degree of acceptance.

Path Coefficients	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Leadershift -> Cultural Agility	-0.074	-0.086	0.117	0.630	0.529
Leadershift -> Mindfulness	-0.260	-0.284	0.092	2.819	0.005
Mindfulness -> Cultural Agility	0.499	0.512	0.068	7.332	0.000

Table 5: Results

The previous table shows the effect of both the independent and the mediator variable on the dependent variable, where we find that the effect of Leadershift -> Cultural Agility is inverse but not significant, and this appears from the value of P-values where it was more significant than 0.05 at a confidence degree of 95%. In contrast, we find that the effect of Leadershift -> Mindfulness had a significant adverse effect. The value of P Values was 0.005, which is significant at a significant level less than 0.05.

Researchers also find that the effect of Mindfulness -> Cultural Agility has a significant positive effect, with a p-value of 0.005, which is less than the significance level of 0.05.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Leadershift -> Mindfulness -> Cultural Agility	-0.130	-0.145	0.051	2.557	0.01

Table 6: Specific Indirect Effects

The previous table shows the indirect effect of leadership on Cultural Agility through Mindfulness. We find that the value of this effect is inverse and significant, as the value of this effect is (0.145).

Discussion and Conclusion

Previous statistical analysis approves the literature and the theoretical background of this research. Therefore, data collected indicates that research findings fail to reject H2 while rejecting H1. In other words, gathered data shows an insignificant relationship between leadership and cultural agility. In contrast, data shows a significant moderation between leadership and cultural agility. Such results prove the literature by concluding that shifting leadership styles in each context alone does not lead to a thriving agile culture in the business. However, leaders must search for unique characteristics or traits to facilitate the change in styles. One trendy trait that research is concerned about is Mindfulness. Such relationships are shown in Figure 1 of the theoretical framework for this research.

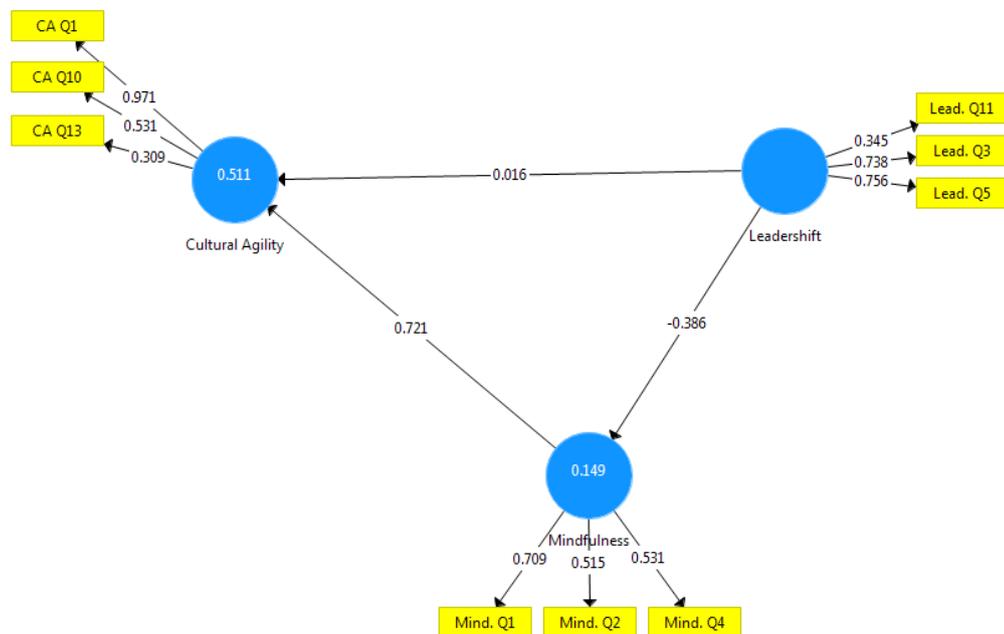


Figure 5: Research Theoretical Framework

The model indicates that a leader must have high self-awareness and social awareness to achieve a thriving agile culture. While shifting leadership styles, leaders should consider the context or situation to choose the right hat to wear. Each situation's chosen style and power usage may help or hinder employees' positive feelings and experiences. Such results indicate that leaders need to use Mindfulness to have both emotional and cognitive ability to reach high awareness of their own and other peoples' feelings. This act will help employees adapt to the change of style and culture, ensuring the success of agile culture in the business. The leader formulates the mission to lead an agile organization with dynamic organizational structure and relationship changes in this position. Given the research context of The Egyptian National Post Authority, they are facing a transformation of the rigid organizational structure to a flatter

organizational chart that facilitates communication and the decision-making process. They also shifted significant tasks in each department to become more group-oriented to diversify ideas and roles. Such changes influence leaders in conducting a daily self-reflection on attitudes and behaviors and how they impact their employees. Such reflection will increase self-awareness and facilitate the shifting of leadership styles, which will lead to cross-cultural awareness (France, et al., 2019).

Further, the leader will have a people-oriented style that is participative and keen on understanding followers' expectations. Moreover, the literature supports the findings by suggesting a value-based leadership style and a charismatic style with a mentorship-based relationship with followers. Other literature indicated the importance of having a servant leadership style to facilitate the agility of the business. Such servant style will help leaders become more resilient with high intelligence and provide subordinates with needed career-oriented support. Outcomes will be an agile business with high organizational knowledge that will stand as a competitive advantage for the firm that would be hard to imitate. Based on findings, such a relationship between leadership and cultural agility can only be achieved by Mindfulness as an effective tool. It leads to awareness of self and others' emotions and abilities, leading to high control and stability of the agile culture. Therefore, leaders will understand followers' performance, behaviors, and well-being. Such understanding will lead to solid interpersonal relationships based on high job satisfaction and loyalty (Johnstone & Wilson-Prangley, 2021).

To sum up, findings show that the relationship is not direct between leadership and Cultural agility. However, when leaders utilize the ability of mindfulness, there is a direct relationship between mindfulness and cultural agility. Henceforth, the impact breeds a relationship between Leadership and Cultural Agility only through the impact of building leadership skills. Therefore, other leadership skills could be an area of developing the research in leadership that leadership can help create a compelling and capable team to lead future opportunities in an impactful way by practicing both environment of the organization and the ecosystem (Pugh, 2020).

Reflections on the Egyptian National Post Authority

The National Postal Authority, established in 1865, is considered the oldest and most important national institution in Egypt, providing financial and Postal services. In the past, the postman was the ultimate delivery news portal for every Egyptian family for more than 150 years in history. Today, witnessing a global transformation in both theory and practical implications in management studies, the public sector institution is reviving to a new dawn of innovation in most products and service delivery. The idea of a one-stop-shop has prevailed in the National Postal Authority activities since 2018, with a new shift in leadership tactics and vision. The digital transformation progress with an added value of services, innovative solutions, and products portfolio that hit the edge in a competitive market of younger generations and global endeavors of other competitors in delivery such as Jumia and Amazon. The National post authority aligned with these competitors when it signed a protocol of collaboration with Jumia marketing company to encourage digital marketing platforms to deliver goods and services and a joint training program to exchange knowledge and innovations (Mansour, 2022).

As change is a constant fact of life, the post authority is now providing a variety of service delivery administered with new practices and platforms for agile transformation with an added value, of course, to the powerful and unique geographical spread. As a customer-first choice, the National Postal Authority has now become a one-stop-shop with a wide range of activities: international and domestic Express mail service, parcel service, tailored postcards services, registered mail services, cash on delivery services, saving accounts, and the civil status service, delivered through an excellent state of art retail with one-stop-shop by the teller services window. The National post authority is also extending to be the arm of the government through an E-administration service as state-owned to offer many services to its citizens such as Pension and traffic violation Payments, utility bills, and many other bill services Payments (Mansour, 2022).

The list of services since 2022 provides an insightful future of change where the IPA agenda (Idea; People and Action) of leadership was defined as a tool to ensure the input of all soft skills of leaders in all departments of the institution into hard results.

The continuity of launching new products and services opens avenues for the customers to use their Egypt Post debit cards by developing a new Portal of Egypt post and mobile application. Hence, customers

enjoy a new list of digitalized services, for example, Wassalha, a delivery service, to develop the receipt of shipments (Mansour, 2022).

The Egyptian post authority uses a plan of innovative vision that is an actual application for the "I" letter in the DISC framework of leadership: where leadership style is geared towards a fast-paced impact and people-oriented one. Such implementation is shown in numerous activities by top management in the Post authority. There is an encouragement and engagement for employees by setting a ceremony for employee of the month for delivery success. Moreover, it was highlighted in the interpersonal style of leading when the CEO of the post authority visited a worker who did an accident while delivering mail. Such style added a positive reflection on the interpersonal style of leading. Both cultural competence and humility reflect the professional integration of all aspects of the workforce force and the interpersonal commitment toward the employees (Mansour, 2022).

In addition, when it comes to Mindfulness as a moderator in the theoretical framework, the "R" in the scarf model is geared towards relatedness of communities benefit and added value in the services provided. A proper application of this is through the financial inclusion plan for pension payments. According to Dr. Sharif Farouk, they are following the state's plan that pensions accounts provided by Egypt Post will benefit pensioners, as in the ease of dealing with all ATMs, electronic shopping, bills payment, and issuing direct debit card "Meeza" (Farouk, 2022).

When cultural agility is studied through its three dimensions, the combination of the cultural integration CI +cultural adaptation, CA+ cultural minimization CM adds to creating an agile environment where numerous services are directed for inclusion, collaboration, and embracing the change of new norms. The initiative of the National Post Authority in this direction aligned with the signing of cooperation with DHL Egypt to empower E-commerce Businesses in Egypt and African countries in 2017.

The innovations along this agreement were crowned by the opening of the logistical hub for international delivery in August 2020 for the Mena region, Africa, and other international hubs. Along with signing a protocol in September 2020 with Abu Dhabi Bank to ease the money transfer process for the Egyptians working abroad in UAE. In addition to signing a protocol of collaboration with Misr Insurance Company in October 2020 to ensure the delivery of rights to workers, signing a training protocol between the Egyptian Banking Institute and the Egyptian Post Authority on hybrid work and artificial intelligence, and finally, sponsoring the world cup of handball male sports competition word broad achieved visibility and international exposure of the port authority as an inclusive, leading body. The DEAD model, in this context, is found to be employed by the top Management of the national Post Authority, where all members from top to bottom are involved in sharing in the decision-making process to ensure inclusion and fairness. The state-owned public enterprise is an accurate model of a typical mechanistic structure on the surface to meet governmental expectations of the authority chain of command. However, an inner organic structure governs the day-to-day operations within the formalistic structure to ensure engagement and participation (Farouk, 2022).

Conclusion

This research has a context of the Egyptian Post Authority facing changes in leadership, organizational structure, and business processes. Therefore, leaders need to use effective traits such as Mindfulness to facilitate change to a more agile culture. Such context created an aim for the research to determine the association between leadership and cultural agility while testing the moderating role of Mindfulness on the relationship between leadership and cultural agility. The main contribution will be a developed guideline for state-owned enterprises on how their managers or leaders can use Mindfulness to enhance their leadership style-shifting and lead a thriving agile culture. Moreover, this research added theoretical and practical literature by introducing a new theoretical framework to trendy topics within Egyptian public organizations. Findings contributed by proving that Leadership is both an art and a Science entailing a set of solid leadership skills in engaging and enhancing followership. The leader is a Maestro organizing the orchestra into peaceful change advocacy. There is no single recipe or clear-cut edge as to what defines leadership, but many tools help explain effective leadership within a dynamic context of global trends.

Mindfulness is a scientific tool based on cognitive and affective components that interfere with paving the way for implementing an agile change in culture. According to Maxwell, leadership is the influence in defining new relationships (Nasr, 2021).

The five Cs of changing leadership style towards more cultural agility are:

Consciousness of every single intake.

Converting and measuring to keep track of the change.

Comparing results in relationship to the original plan.

Cutting on excess luggage when the change process is precise, concise, and to the point.

Cleaning is the last stage where people clean for the organization's survival (Nasr, 2021).

Research Implications

The previous research findings can work as implications for future researchers and managers. The paper contributed to literature by theorizing the concept of leadership as the ability to shift between styles of leadership smoothly depending on the situation. Thus, the findings provide a developmental base for papers to test such relationships in different contexts and with different moderating variables. Additionally, future researchers can test the same relationship while comparing the public and the private sector in Egypt. Not to mention that researchers can study the impact of national culture on the agile business culture to be highly generalized to different societies. Other factors to be considered could be the age element or the gender element in reaching the relationship between leadership and cultural agility. In contrast, this research has a practical implication for business practitioners. Hence, the paper adds knowledge by setting an example to various public-state owners in Egypt on achieving this framework in their business. It works as a practical guideline for business leaders on utilizing mindfulness, which will help achieve leadership and lead a sustained agile culture.

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Annexation stability and financial implications

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Keywords

Annexation, Crimea, Kashmir, Hong Kong, financial implications

Abstract

Throughout the course of history, annexation has littered the international scene as major powers exert their force in the takeover of smaller lands. Sometimes these takeovers are violent, and others are not, but what we undoubtedly see is that annexation will be successful if economic indicators rise, post-acquisition. For the purposes of this study, we will define success as the substantial decrease of violence six months after the takeover. We will focus our attention to three prominent cases of annexation by major powers: Crimea, Kashmir and Hong Kong. We will briefly examine what our study suggests for Ukraine and Taiwan. Our first aim will be to arrive at a developed scenario analysis that identifies actions taken by governments to harmonize territorial integrity. The second aim is to identify the consequences of annexation from a financial pers. Results of this study suggest that financial conditions within the contested areas are an indicator of political stability and successful annexation. Regardless of external pressure from the international community, successful annexation can be achieved. Findings indicate that as overall GDPPC rises and property values rise, the contested area has support from local constituencies for annexation by the major power.

Introduction

This research will pair international politics and financial markets together, to identify conditions and effects of annexation by major powers. We will conduct a complete political as well as financial analysis, to better understand the impact of annexation. The research will first employ a computational modeling assessment to show that contested areas can produce varying degrees of success for the annexation. This assessment will start by identifying all stakeholders, their stance, and influence. It will allow us to identify the most likely scenarios and possible consequences in each contested area.

After this initial political assessment is complete, we will move to a complete financial analysis of the regions. This financial analysis will look at data in three regions this study addresses: GDP per capita and property values. These three variables will help us develop a comprehensive picture of the economy in each region. We will examine the impact of each indicator at the point of annexation. For the purposes of this study, annexation will be defined as the forceful incorporation of territory previously autonomous.

As previously mentioned, we will be examining all instances where annexation has occurred with a world power over the past two decades. The three cases involving the annexation of a smaller state by major powers, consists of: Kashmir, Crimea and Hong Kong. These three cases illustrate a process of annexation that is experienced continuously over time. We see that although there is a particular date where we can say this annexation occurred, the impact ripples beyond the actual event. In this research, we aim at considering the likelihood of successful annexation, given certain government action and resulting macro-economic effects. Understanding these actions, we will look at how each stakeholder is able to influence the outcome.

All of the cases involve an overwhelming powerful state confronts an extremely weak annexe. We will want to see how this smaller state is changed by being absorbed by this larger power, primarily in the economic and political sense. Our aim is to conduct a comprehensive, multi-case study to identify the trends that lead to a successful annexation, and to better understand how financial indicators help us to determine the political stability in contested regions. Each of these cases will allow us to see varying degrees of successful annexations. This will be an important contribution to research in this field because it will suggest that successful annexation follows a repeatable pattern that can be applied across cases in the future.

As scholars have thought for some time, political and economic factors determine success or failure. For a more complete history of annexation in the international system, see Khederlarian's 2020 volume entitled: *The Consequences of Annexation on Financial Market* (Khederlarian, 2020). Successful annexation can,

therefore, also be thought of in terms of politics and economics. We will use these two measures to determine the degree of success or failure. The first goal is to identify the level of political dissent - internal and international - immediately following annexation. We will accomplish this by examining the consequences and actions of each event. We will seek to identify the economic consequences that affect the annexee. In this study, we define "annexee" as the weaker state that is absorbed by the major power.

The political analysis will be performed using an expected utility analysis that detects the level of confrontation and cooperation immediately following a political annexation. We will employ subject matter experts on each of the cases to generate the data used for each case study. This data identifies all stakeholders and defines their position on the question of annexation, their individual influence, their group affiliation's influence, and the salience of the issue to them. The subsequent data set for each crisis will then be ran into a simulation, which will produce potential outcomes in each case.

To assess the impact of economic changes, we will proceed by examining property values and changes in overall Gross Domestic Product per Capita (GDPPC). Data for each case will be collected, controlled for inflation and then used to calculate a few different statistics, which will allow us to better understand the degree of change in each measure.

We expect that there will be a positive GDPPC in the contested region will increase support for annexation. Rise in property values will also support annexation, but buying property in contested areas is risky, and continued resistance may cause the real estate market to suffer.

Political Analysis

In this study, we carried out political assessments of the level of confrontation between competing groups within the annexed region, and across to the international system. The data generated in each of these cases is available for review and duplication in the appendix of this volume. The method used for these analyses include subject matter experts' examinations of each case, which help us to identify all key stakeholders involved. The complete list of all stakeholders can be examined by the reader in the appendix. After identifying who plays an important role in each event, we define their position on the annexation. This information was used to generate a scale for analysis. Asking where each stakeholder stands on the issue, we form a scale between 0 and 100. We place each player somewhere on that scale. Then we start defining their influence, group affiliation and power in the conflict. These indicators allow us to map out where each agent stands in respect to the annexation, and truly allows us to see how their positions will influence the overall outcome of each event. We will examine these positions on a visual chart that will allow the reader to see where each stakeholder stands and how much influence they have over the outcome.

When examining each of these three cases, we see that the issue was always the same. We find ourselves asking, do the competing actors support the contested region's independence, or do they favor annexation by the large state? Answers varied in each of our examinations. The Crimean population supported Soviet annexation - but this move was opposed by the West and tacitly agreed to by China. This will pose an interesting question of whether or not external opposition really plays a part in the success or failure of annexation. We expect it does not matter, but further analysis will confirm or deny this hypothesis. In Kashmir, the majority Muslim population opposed integration into India supporting autonomy or an integration into Pakistan. The international community was mute. In this case we will see whether the internal population can stop an event from happening. Hong Kong is a more complex as the dispute is over the level of autonomy within China rather than independence. In this case China has thus far acquiesced in large part to Hong Kong. Most recent events show us that the one country, two systems model will be dissolved by 2020. Uses the analysis of these three cases, we will develop a theory for future annexation. We posit that annexation by great powers follows a very simple path:

Successful political annexation requires support of the local population. International pressure is irrelevant.

Political annexation is contested and may fail without local population support. A consequence of local population is seen in rising property rights. International support is marginally relevant for great power annexation.

To test the above hypotheses we will apply an Expected Utility Model that has been successfully used to anticipate the short- and long-term outcome of complex negotiations by scholars in the field of international

politics by Kugler, Feng and Abdollahian in studies that model the economic and political aspects of complex international interactions (Yi Feng, Jacek Kugler, Siddharth Swaminathan & Paul J. Zak 2008), (Abdollahian, M., Yang, Z., Coan, T. et al, 2013). This approach will use data generated by subject matter experts for each of the contested regions. We will run an analysis concurrent with the annexation of each region. As previously mentioned, data is obtained from established subject matter experts who identifying five key indicators – the stakeholders in the contest, the relative influence of each such stakeholder, the group to which they belong, the relative influence of each group, the relative influence of stakeholders within each group, the position stakeholders advocate on the selected issue and the importance they attach to the outcome. This data will be used to identify outcomes, opportunities for negotiations and bargaining with other stakeholders, and will ultimately help us to test each of the above hypotheses (Abdollahian M., Kugler J., Nicholson B., Oh H., 2010), (Takao Terano and Kenichi Naitoh. 2004).

Financial Analysis

Political and economic stability have a direct relationship with one another, and previous research shows that political instability has a negative effect on private investment (Feng, 2001). The second half of this study will be a complete financial analysis of each of the cases in question. By analyzing, key economic indicators, we believe that we will be able to establish a framework for thinking about annexation from a financial sense. Failure and success will be thought of in terms wider than politics alone. We posit that stability in the annexed region is achieved by sustained economic success. The universal macroeconomic indicator of GDPPC will need to be evaluated in order to monitor the general financial condition of the region (Everhart, S. S., & Sumlinski, M. A., no date). By examining property values, we will have a feel for supply and demand in the contested areas and investor's readiness to spend money in the region. Examining property values will allow us to have insight in the projected economic growth and will serve as a proxy for overall financial performance in the region. We will test the following two hypotheses:

As GDPPC rises above previous performance, the annexed region successfully integrates into the larger society.

As property values rise, the annexed region successfully integrates into the larger region

We expect to see that political instability undermines and eventually reverses the effects of economic success. The method for testing these hypotheses will be through analyzing data pre and post integration for each of the contested regions: Kashmir, Crimea and Hong Kong. This financial analysis will be composed of data visualizations, showing the trends over time of each of the three variables for each case. I will also include some summary statistics, showing the numeric values of each of the three indicators. We will examine the amounts of each variable, controlled for inflation and then perform a few different calculations to look at the percentage changes from the previous year, from the date of the event, and the overall rate of change from the date of the event.

Expected Utility Theory

Addressing issues of decision making, the field of international relations has employed various means for developing theories. Requirements for labeling options, assigning preference, identifying trade-offs and stakeholders, has made this field very complex. This study will use an Expected Utility Theory, as a proven model for decision making. As Thompson points out, "national security-level decision making postulates that decision-makers typically utilize compensatory decision rules as they process information en route to a final choice" (Thompson, 2018). Our model will use Expected Utility Theory to analysis each case of annexation in our study.

Expected Utility Theory was developed by Bruce Bueno de Mesquita in 1981 and has been used by scholars to analyze policy since. As Kugler and Feng suggest in *International Interactions*, this model has its roots in median voter theorem (developed by Black in 1958) and the subsequent theory on expectations and conflict escalation (developed by Black in 1990) (Kugler and Feng, 1997). "This model is a powerful tool for applied policy analysis, capable of outlining solutions that the interested parties are unaware of by identifying appropriate strategies that can alter undesirable outcomes. On the strength of its axiomatic foundations and rigorous specifications, the model can be used for academic research in the fields of political science, economics, and sociology" (Kugler and Feng, 1997). We feel that utilizing this model will not only build upon previous research in the international relations field, but it meets the requirements for

a complex decision-making structure needed for analyzing actions taken by governments to maintain territorial integrity through annexation.

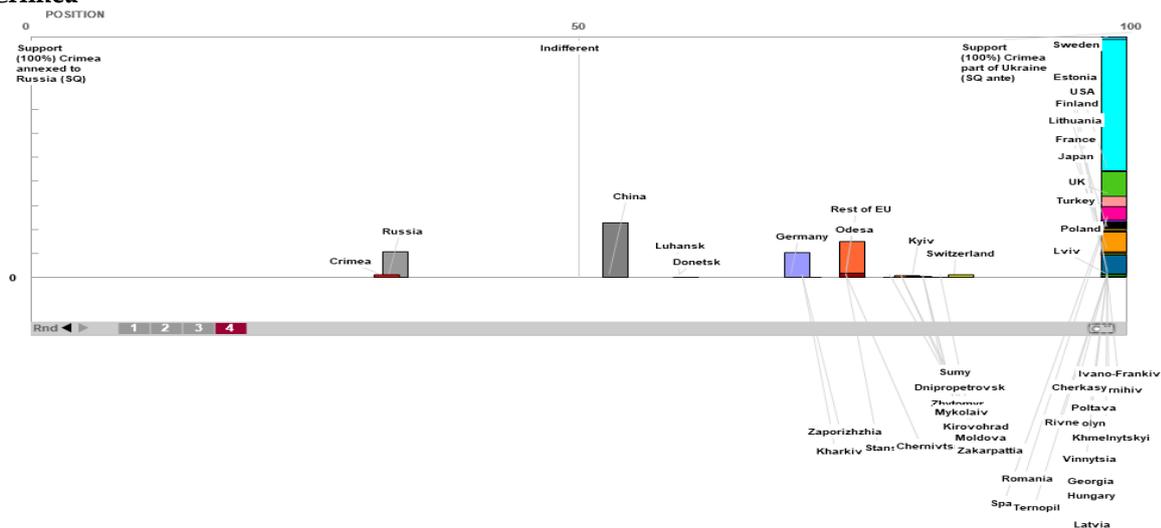
Bueno de Mesquita explains that Expected Utility Theory, “remains faithful to the rational choice perspective that suggests that decision makers do what they believe is in their best interest. Decision makers are modeled as individuals with bounded rationality, who are not able to look ahead over an unbounded time horizon, but instead see only one move ahead of their current choice” Bueno de Mesquita (1997). Functioning under the assumption that decision makers are rational actors, our model will start by identifying all stakeholder, their stance on the issue of annexation, their influence (individual as well as group) and the salience of the issue to them. In doing so we will arrive at a fully developed scenario analysis that will allow us to predict the likelihood of a successful annexation.

Setting the precedent for this modeling approach, in 1985 Bueno de Mesquita, Newman, and Rabushka used the Expected Utility approach to forecast Hong Kong’s future as it shifted hands from the Great Britain to China (Bueno de Mesquita, B., Newman, D., & Rabushka, A., 1985). In this book, it is explained that using Expected Utility Theory allows for the analyzer to truly grasp an understanding of the various policy choices that are available to decision makers and forecast decisions and their full implications. In building the Expected Utility Model for Hong Kong, Bueno de Mesquita et al, explain that “It is a parsimonious model that requires only data on the relevant political actors who seek to influence policy, the policy preference of each actor arrayed on the possible policy continuum, estimates of the relevant capabilities of each group, and the salience each group attaches to each issue. These data are readily available from experts who study given countries or substantive issues” (Bueno de Mesquita, B., Newman, D., & Rabushka, A. (1985). Using this model as the basis for our research, we will expand upon it by applying it to the current annexation of Hong Kong by China.

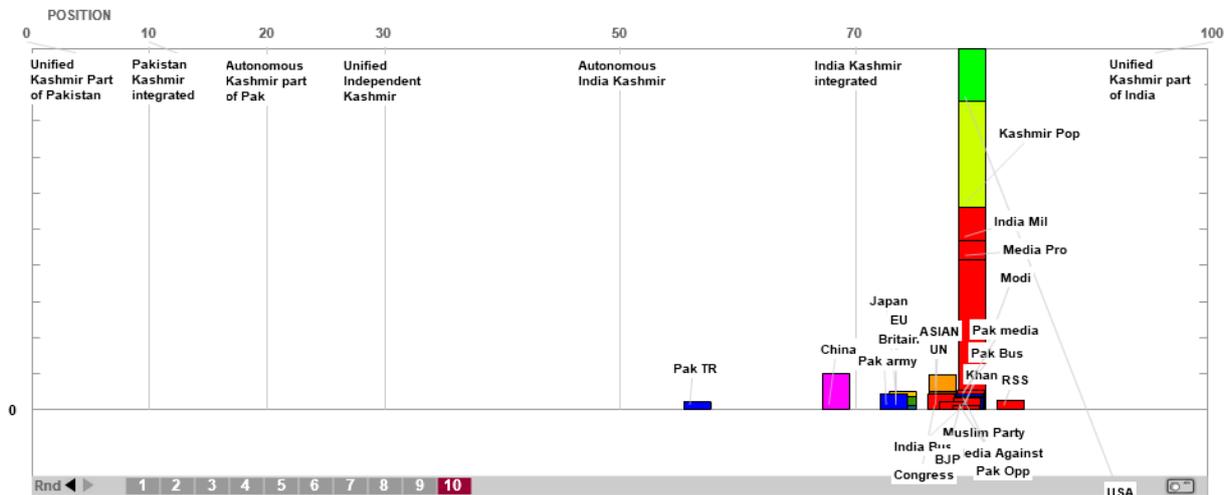
In 2000, Kugler et al, also employed the Expected Utility Theory to forecast the future of Kashmir. In this research, the crisis of Kashmir was analyzed from the position of all key stakeholders. Implications were made for Pakistan, India and the US. Results of this analysis found that conflict in this region would linger. After the recent events of the 2019 annexation, an updated analysis is needed, and this study will provide that. In 2014, the Crimea annexation was analyzed and predicted by Kugler, using the same Expected Utility Model we will employ in this study (Kugler, 2014). The accuracy of its prediction still stands today, and we will update it with the results of this study.

Results

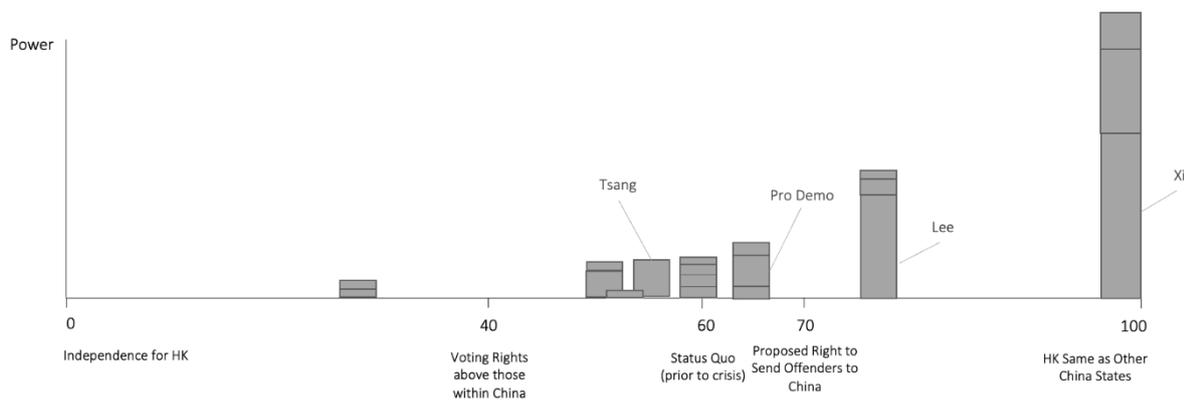
Crimea



Kashmir



Hong Kong



Building upon research by Kugler in 2014, this study updates the Crimea crisis for where it stands today (Kugler, 2014). Initial research from 2014, predicted that the annexation of Crimea would become the new status quo for Crimea, and we find that this was an accurate prediction. In 2014, the majority of the population supported the Russian incorporation, and we find that this is still true. Even if there were some opposed to this annexation, Kugler’s research suggest that the Russian military would have the power to quiet any disturbances to this new status quo. The identification of external resistance to this annexation has been consistent since 2014. Members of the EU, UK and United States oppose Russia’s actions, but as we see from the results of the analysis, this does not seem to be very impactful on the success of the annexation by Russia. Crimea’s incorporation into Russia stands.

In the case of Kashmir, we see that Pakistan groups, China and Khan are on the side of the opposition. These stances range from wanting Kashmir to be unified with Pakistan to a slightly less strong position of simply integration. At the position of 30 (base case), we see the population of Kashmir that wants a unified independent state for themselves. We see that Asia, UN, Japan, UK, Media against, and the Muslim Party Congress are wanting an autonomous India Kashmir. India’s business group is between that position and wanting Kashmir integrated into India. Wanting integration with India, we see the stakeholders: US, India’s military, media that is pro, and BJP. Modi is close to that stance as well. Russia is on the far-right position. We see that over time Modi can persuade Khan, The Pakistan Military, Foreign actors and all India faction to accept the new status of Kashmir (R5-10). Once consolidation takes place, the only opposition will come from Kashmir rebels in Pakistan that have very limited support (R8-10). We expect that India’s annexation

of its portion of Kashmir will not generate strong opposition from foreign actors, International Organizations and will be accepted by Pakistan Military and government. However, cross border terrorist activity and internal opposition within Kashmir may follow with very limited external support. In the final rounds 8 and 10, we show that most all agents have been moved towards India's annexation of Kashmir. This analysis shows that Modi has the opportunity to move stakeholder's away from opposing this annexation. There may still be some opposition from Pakistan TR, but even they move away from the position of Kashmir unifying with Pakistan. Overtime, there is an opportunity for Modi to move the population of Kashmir into support for integration into India and closer to Kashmir being unified with India. If this local support occurs, the chances of India's annexation of Kashmir becoming the status quo is more likely.

In the analysis of Hong Kong, we saw that all parties were stuck in their positions in the initial rounds of the simulation. The analysis does show a slight opportunity for the opposition to emerge, but it is very quiet. We see that there was no movement from Round 1 to round 3. This indicates a stalemate. The median position is at 100. Therefore, Beijing can impose its policy – as they eventually did. We see that none of the pro-democracy actors move towards the new imposed status quo indicating continued resistance. China can impose politically. We see that contiguity helps (unlike Panama) because the relative size of the parties is massively disproportional.

Description of Financial Data

In the case of Crimea, data is examined for the period of 2005-2018, which will give us a reasonable sample from both prior to and post, annexation which occurred between February and March of 2014. We examined the Gross Regional Product per Capita from both the Ukrainian and Russian Federal State Statistics Websites: Ukrstat and Rosstat. The 2005-2013 data was from Ukrstat, because this was the period of time that Crimea was monitored by Ukraine. The 2014-2018 data is from Rosstat, because this was the point at which the annexation had occurred, and Russia began to record statistics for the state. The data used for GRPPC was controlled for inflation using the GDP Deflator from 2018. The data generated for this study is therefore referred to as constant 2018. The definition of GRP is: "Gross regional product (GRP) is a general indicator of the economic activity of a region that characterizes the process of production of goods and services for final use. At the same time, GRP is the gross value added created by residents of the region and is defined as the difference between output and intermediate consumption, GRP is calculated at current basic prices and at constant prices. Key prices include production prices for the industry, subsidies on products, but exclude taxes on products" (data.gov.in).

Data from the 2006-2013 period was obtained from Ukrstat, the Ukrainian statistics site. The 2014-2018 data was from Rosstat, the Russian statistics site. To examine the real estate market in Crimea, we looked at data from the Federal State Service on House Prices on the Secondary Market and REM Navigator. The data from 2008-2013 was obtained from REM Navigator for the period where the region was Ukrainian and then the 2014-2018 data was from Rosstat.

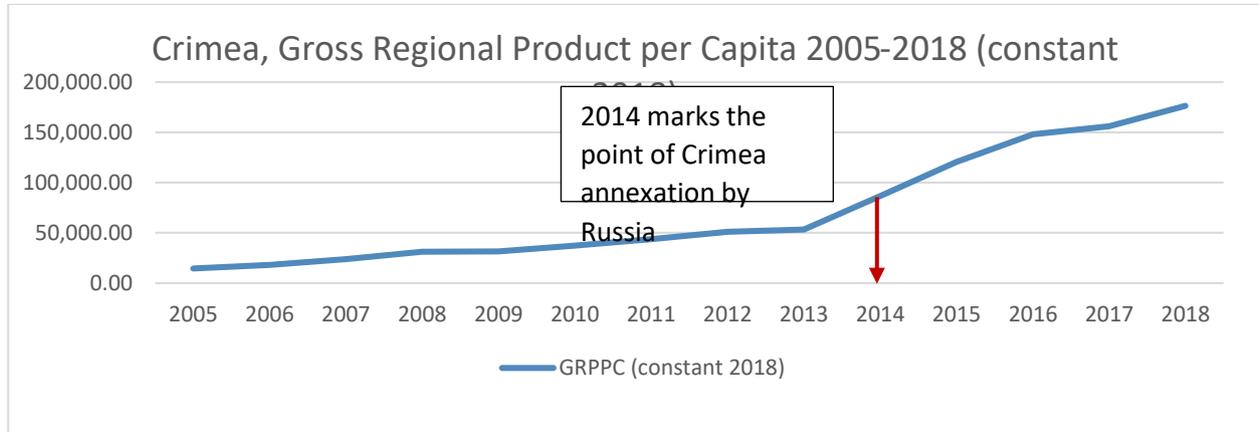
For Kashmir, we will examine Gross State Domestic Product per Capita for Jammu and Kashmir that is available at the Statistics Times Website. Real Estate data will be obtained from the government website for Jammu and Kashmir, under the land rates subset. We will look at Average Real Value of Residential Plot per Kanal. All data for Kashmir will also be controlled for inflation, using CPI (Consumer Price Index). Tables in the appendix will list all data used in this study, so that the reader may be able to duplicate the results of this study.

For Hong Kong, we will examine the Gross Domestic Product per Capital and Gross Capital Formation data available from the World Bank and Census and Statistics Department of Hong Kong, and for the housing market, we will look at the house price data from Bank for International Settlements (Bank for International Settlements, 2022). All data will also be controlled for inflation using CPI (Consumer Price Index), as in the previous case studies. The World Bank defines GDPPC as: GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant local currency" (World Bank). 2021

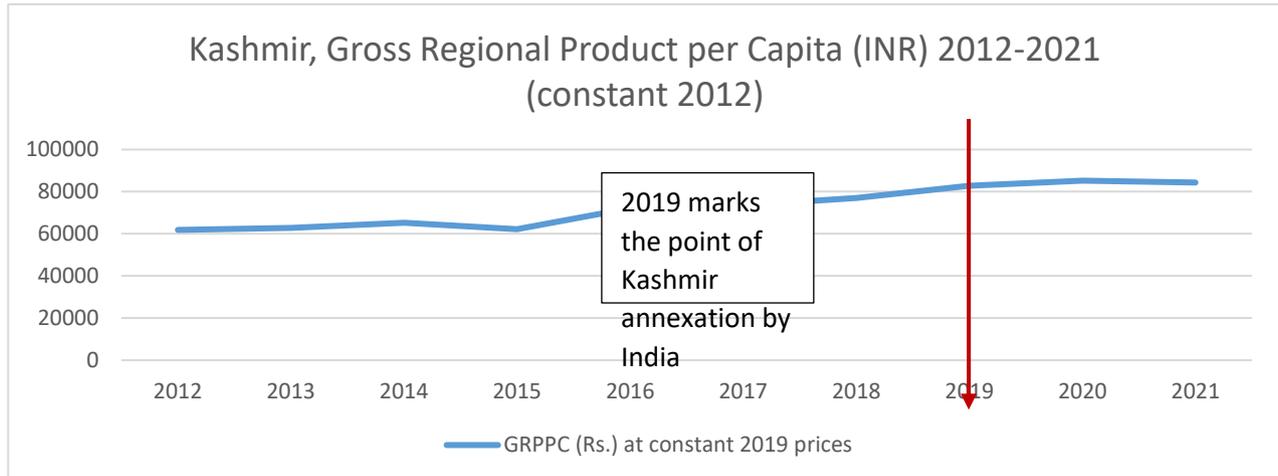
data was obtained directly from the Census and Statistics Department of Hong Kong. The data for this study was collected from Census and Statistics Department of Hong Kong (Censtatd).

Results (GPDPC)

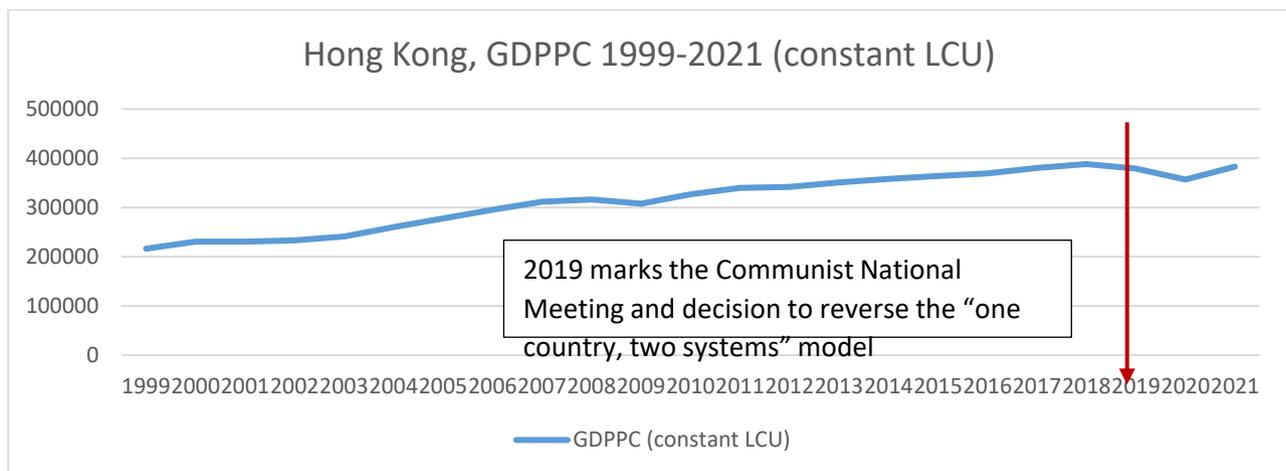
Crimea



Kashmir

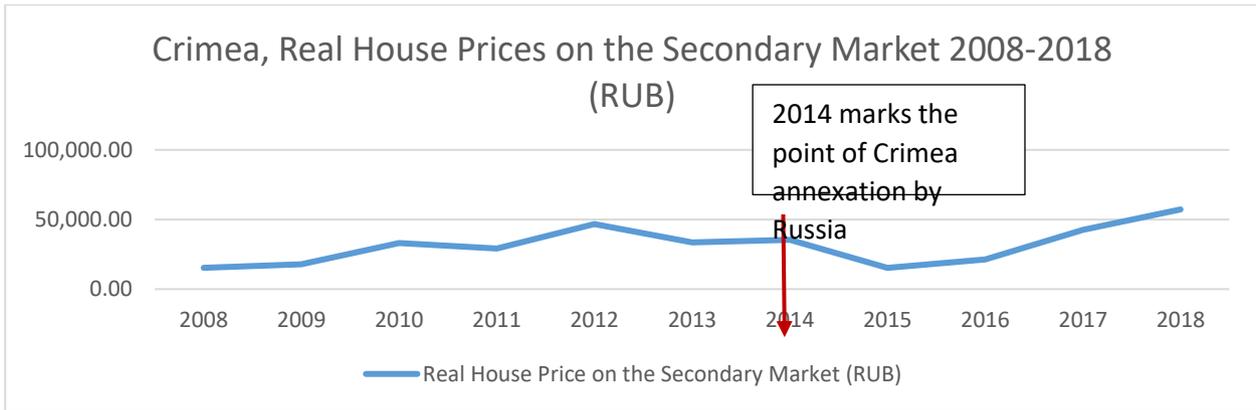


Hong Kong

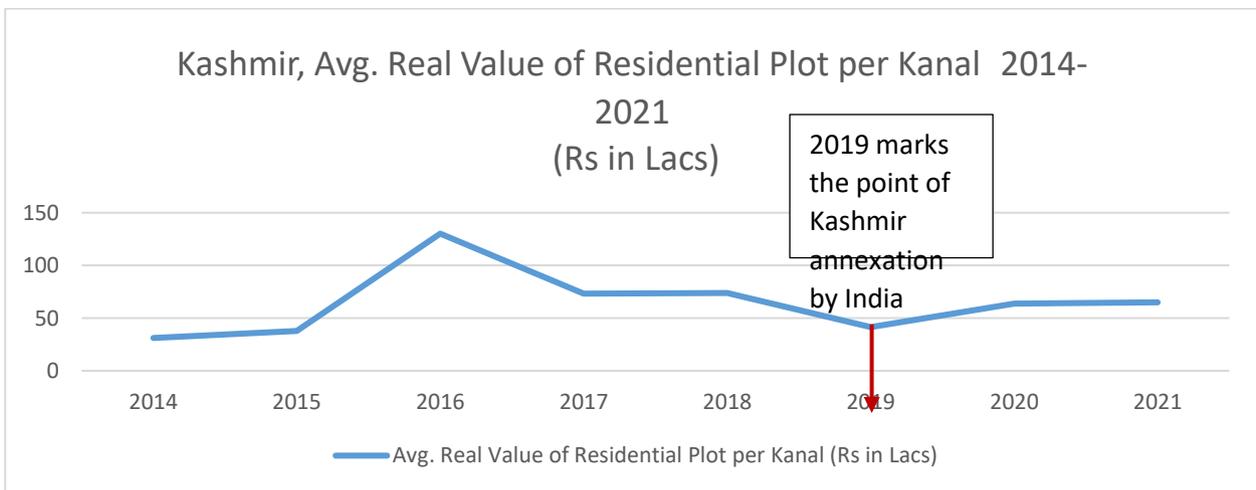


Results (Property Value)

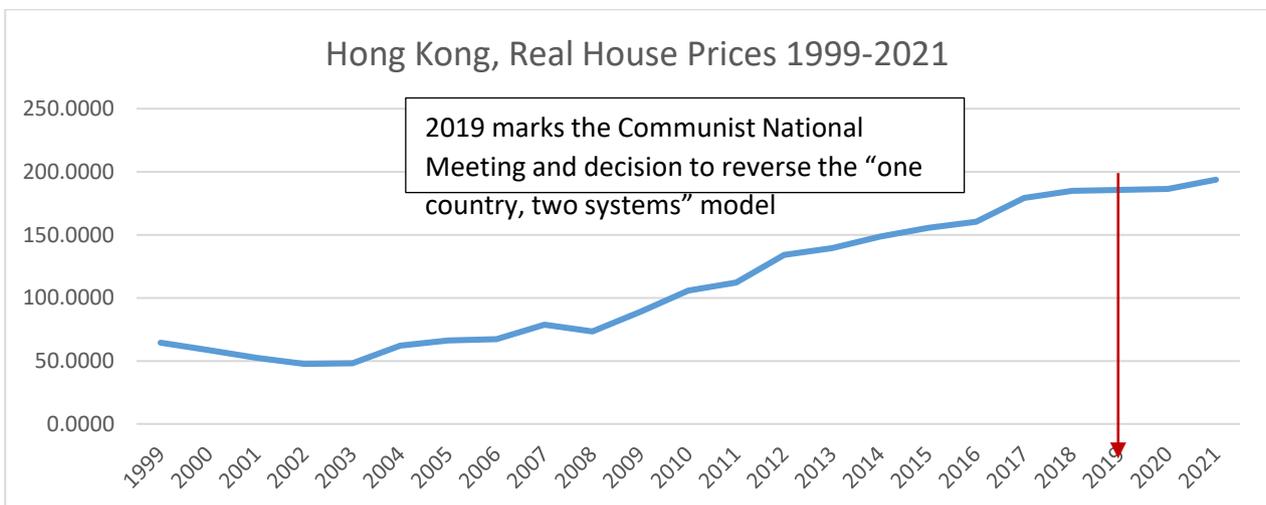
Crimea



Kashmir



Hong Kong



Summary of Findings

Expanding on the results of this analysis, we find that three primary points can be drawn. First of which, is that the support of the local population seems to be the strongest determinant of successful annexation. The reverse is also true, if political annexation is contested, it may fail without this domestic support. The second point identified, is that results confirm that international support is only marginally relevant. Although strong international opposition may exist, with the support of local populations, this opposition simply does not matter. Finally, we find that as annexation stabilizes and becomes the new status quo, the economy rises. Generally, GDPPC grows, and we see property values rise. The market may experience an initial dip in real estate, as potential purchasers are unsure of the annexation, but quickly within one to two years, the market rises well above pre-annexation. We expect that without this strong local support for the annexation, resulting in an unsuccessful annexation, the economy suffers. This can be seen in the unstable period in Hong Kong between 2015-2019. Economic declines are followed by strong local opposition to the annexation. We think this will be a telltale sign of internal difficulty – politically and economically. Another interesting observation can be seen when looking at investment data. In the appendix, data will show that there is a dramatic increase during the conflict period. This surge in investment contributes to the stabilization of the region and once the violence ends, we see the investment levels drop.

Conclusion

This research aims at understanding annexation and its full impact in the nuclear era. Unlike other studies, this one seeks to tie the two worlds of financial markets and politics together, by exploring the consequences of annexation in a political and financial sense. We began this study with a brief review of historic cases where annexation was successful and when it was not. We found that in cases such as the Panama and Suez Canal, when contested areas have independent self-sustaining wealth, major powers fail at annexation. In contrast, when smaller areas are weaker and will financially benefit from annexation, the major power is successful, as in the case of Hawaii.

We have also explored the topics of negotiation, bargaining, influence, and have arrived at a fully developed scenario analysis of the likelihood of integration in the three major cases of annexation. This political analysis provides the foundation for this study, but by exploring the economic consequences as well, we have provided a cross-disciplinary approach to understanding and defining success in annexation. We have accomplished this by looking at the fully financial implication from the standpoint of the smaller region and the dominant power. We see how this impacts the economy, in relation to property values. Our goal has been to push research forward for policy makers by providing recommendations and implications for all parties involved in annexation and this has been accomplished.

The premise of this study was to test the hypotheses laid forth for political and financial analyzes. We have confirmed that successful political annexation requires support of the local population. International pressure is irrelevant. In addition, this study confirms that political annexation is contested and may fail without local population support. The support of local population results in rising property rights. International support is marginally relevant for great power annexation.

From a financial perspective, our results are confirmed that as GDPPC rises above previous performance, the annexed region successfully integrates into the larger society. As property values rise, the annexed region successfully integrates into the larger region. This study points to the fact that there is a hidden opportunity in this annexed region. We see that the first few years immediately following a successful annexation, many investors are afraid to purchase real estate. This may briefly allow for a dip in the market, where we might suggest this is a great time to invest, despite what others may be thinking.

Our research has set the groundwork for future innovation. We hope that scholars begin to look at annexation in a more holistic and cross-disciplinary manner after reading this study. In applying the framework, we have laid out, natural implications arise for Taiwan. Given the events in Ukraine that have mobilized the West, the annexation of Taiwan may be more difficult. The Chinese annexation would require military action in excess of the action we saw in the Russian annexation of Crimea. As far as the crisis in Ukraine, we expect to see the financial theory stand. Property rights and GDPPC drive political stability. This market-oriented theory explains why Crimea has stabilized after the Russian annexation. As the economy thrives in an annexed region increases, the stability of that state also increases. The market drives

the stability and success of the annexation. The same principle will stand in the potential annexation of Ukraine.

Appendix

A Brief History of Each Case Study

The following case studies provide context for each of the contested regions analyzed in this paper. Although the aim of this research is not to examine the reasons for annexation but rather the consequences of, it is still important to understand the background on each conflict we examine.

Crimea

Located in east Europe, Crimea is a small region nestled between the Black Sea, Ukraine and Russia. This territory has gained much international publicity in its annexation by Russia, and it is often thought of in two parts. The first being the Republic of Crimea and the other being the federal city of Sevastopol. Both parts of the territory were incorporated into Russia as the 84th and 85th Federal Subjects of the Russian Federation (Tass, 2019). Despite internal sentiments of the people of Crimea, the UN as well as the West has been rather vocal on their dissatisfaction with Russia's aggressive maneuvers to reclaim Crimea from Ukraine's control (United Nations, 2014).

Crimea was initially annexed by the Russian Empire as a consequence of the Russo-Turkish War in 1783 (Anderson, 1958). However, after the Russian revolution Crimea was an independent state in 1917. WWII had devastating effects on the Tatars in Crimea, as many of these native Crimeans were sent out of the country to central Asia. This mass deportation is now actually recognized as an act of genocide (Thomas, 1993). During 1954, Crimea came under the control of Ukrainian SSR but when the Soviet Union collapsed in 1991, Crimea was once again to experience independence. Shortly after the collapse, in 1997, the Partition Treaty allowed Russia to continue basing their fleet in Crimea and this foreshadowed the future Russia held in this region (Michel, C. 2015). After the Ukrainian Revolution in 2014, Russia seized the opportunity to regain control of Crimea (Tass, 2019). Russia was criticized by the United Nations and the United States for this violent acquisition of Crimea (United Nations, 2014). Despite international criticism, Russia holds to the fact that a referendum was held regarding the reunification with Russia and the results stated the majority of Crimeans were in favor of joining Russia again. The United Nations refuses to recognize this vote, and many have said that the referendum was not legal. Regardless of outside opinion, Crimea was fully integrated with Russia in March 2014 (Tass, 2019).

Since this absorption into Russia, public opinion in both states has been strongly in favor of the Russian government. Elections are held for Crimea and Russia continuously wins the majority of the seats in parliament. There has been a small movement amongst the Tatars to abstain from these elections, but this voice seems to be in the minority and the movement has not gained much traction.

Kashmir

Kashmir has been the cornerstone of conflict in the east since the end of British rule in 1947. With the formation of Pakistan and India, the two states have not seen eye to eye on who would control this region nestled between the Himalayas and the Pir Panjal Range (RT, 2019). Despite attempts at multilateral diplomacy and democratic ideology, the people of Kashmir have yet to formally cast a vote on their preferred alignment (Welle, 2019). Meanwhile, brutality and human rights violations continue in the region (Kazi, 2014). India currently controls Kashmir, and their latest announcement of dominance in the region was met by a devastating terrorist act in 2019 (BBC, 2019). The international community continues to watch as these two nuclear equipped countries continue to struggle to reach an agreed upon solution.

The Kashmir Valley is a largely Muslim territory, which has led to their reluctance to wanting to join the Hindu led India. With a population of approximately 4 million people, 95% are Muslim where only 4% are Hindu (BBC, 2020). With such a majority of the territory practicing the Muslim faith, Pakistan has made the argument that Kashmiris are better aligned to their state, although many have speculated that joining Pakistan may actually weaken their standing in the international system (Abi-habib, M., Mughal, J.; Masood, S., 2019). Understanding the positions of each opposing state, one can see that solving this territorial dispute is not an easy one. The UN has had several failed attempts at trying to put this issue to an official vote and the people of Kashmir have not had the ability to formally voice their majority opinion (Sumathi Subbiah, 2004). While the voice of Kashmir remains largely unheard, India claims that Pakistan

has supported rebels and terrorism in the territory. They claim that Pakistan is spreading anti-India propaganda in the region and has attempted to stir rebellion in Kashmir multiple times (Global Conflict Tracker, 2020). While Pakistan claims that India is themselves committing human right violations, despite the fact that they have not been formally acknowledged or investigated (Kazi, 2014). To complicate matters further, China also controls the Aksai Chin region, and claims that this is not a part of the Kashmir territory since their victory over India in 1962 (The Brookings Institution).

The Kashmir Valley has been the battleground where Pakistan, India and China have waged war for the majority of the 20th century, and it continues today. The Indo-Pakistan War of 1947 marked the first official war of the territory and led to failed UN mediation on the issue (Shapiro, J. N., Fair, C. C., 2010). The UN established a commission to address the issue, called the United Nations Commission for India and Pakistan (UNCIP), and this council passed Resolution 47 in 1948 where they called for a cease-fire (Peacekeeping, 2020). The UNCIP asked for Pakistan and India to stop the use of military force in the region and hold a plebiscite where the accession of the state to India or Pakistan could be formally voted on. Both states failed to heed the direction of the council and a pattern of disagreement was established. This was followed by a failed attempt at demilitarization set forth by the Dixon plan and a military standoff in 1950 (Noorani, A., 2002). India and Pakistan continued to accuse the other of ill-intended motives and India backed out of holding a plebiscite. Violence was again heightened in 1962, but this time it was between China and India in the Sino-Indian war over Aksai Chin. China won this war and continues to control the territory today (Desk, I. (2018). Shortly after the Chinese victory, Operation Gibraltar was launched in 1965 and Pakistan attempted to lead a covert operation to enlist Kashmiris to unite in a rebellion against the Indian government using guerilla warfare techniques that they had seen used by the United States. However, this operation failed to mobilize a Kashmir resistance movement and many of those involved in the operation were actually turned into the Indian government by Kashmiris (Khan, M., 2015). In 1971, the Indo-Pakistani War led to a victory for India and a resulting recognition of Bangladesh as an independent state (Pike, J., 1971). This weakened the Pakistani position further and they ultimately surrendered. A summit was conducted in Simla, where the Simla Agreement was signed by both sides. During this summit, India advocated for peace and the two states agreed on settling their disagreements with the use of bilateral diplomacy and to honor the agreed upon Line of Control. The two states agreed to meet again to establish a final solution on the issue, but the meeting was never held and both sides proved to have a different understanding of the role the UN would play in the future (Mea.gov, 1972).

While surrounding states were taking up arms to decide the fate of Kashmir, an internal rise of Kashmiri nationalism was developing. Jayaprakash Narayan's letter to Nehru on May 1, 1956, clearly illustrates the sentiment of the Kashmiri people, "From all the information I have, 95 per cent of Kashmir Muslims do not wish to be or remain Indian citizens. I doubt therefore the wisdom of trying to keep people by force where they do not wish to stay. This cannot but have serious long-term political consequences, though immediately it may suit policy and please public opinion" (Noorani, 2006). As their voice continued to be ignored, the revival of the National Conference began in 1975 and continued until 1983, when the separatist and Islamism developed in 1984 (Bakaya & Bhatti, 2020). In the late 1980s, state elections occurred in Kashmir but to the disappointment of many onlookers, these elections were said to have been rigged by the Indian government. In 1999, the conflict in Kargil between Pakistan and India left the international community scared that a nuclear outbreak would occur, and President Clinton asked Pakistan to withdraw to end the conflict. A letter from Al-Qaeda leader, Osama bin Laden addressed the American people on the US support of India on the Kashmir conflict and cited this as one of the reasons he was fighting the US (The Guardian, 2002). Adding this terrorist undertone to a potential nuclear war, helped this Kashmir conflict to gain international attention in the 2000s.

In February 2019, a devastating terrorist act resulted in a suicide bomber from a Pakistani Islamic militant group, Jaish-e-Mohammed, killing over 40 Central Reserve Police Force (CRPF) members (Bhattacharjee, Y., 2020). This resulted in the US voicing a public condemnation of the act and their assistance to India on counterterrorism efforts. A few months after this attack, Amit Shah announced that India was lifting the somewhat autonomous status that Kashmir previously had. This was followed by an internet blackout imposed on Kashmir by India, and it was only recently lifted in February 2020 (Al Jazeera, 2020). This block on communication has made it difficult for Kashmiris to communicate with the

international community and has again silenced their voice. As Kashmir continues to be controlled by India, Pakistan has continuously sought international support in resolving the issue. Recently, Pakistan reached out to President Trump to appeal for US assistance on the issue (Afzal, M., 2020).

Hong Kong

Hong Kong has been a sought-after territory for many states attempting to increase their influence in the East. From 1842, to the better majority of the 20th century, Hong Kong bounced between China, the United Kingdom and was even occupied by the Japanese for a short stint (BBC, 2019). In 1997 the Sino-British Joint Declaration called for Hong Kong to be officially transitioned from the United Kingdom to China, but it called for certain stipulations that were agreed upon by both sides. The declaration made Hong Kong an independent administrative unit of China, ruled by Hong Kong's Basic Law. This semi-autonomous status was agreed upon by both China and the United Kingdom. Shortly after the hand-over was complete, conflict began. A movement of advocating for democracy began to emerge in Hong Kong and created an anti-Chinese sentiment. For many years, China took a hands-off approach and allowed Hong Kong to function in a semi-autonomous manner, but this has changed. Attempts to incorporate Hong Kong into mainland China have been met with much opposition. Protests in Hong Kong drew the attention of the international community, as tension in the region was previously growing (pre-coronavirus) (Reuters, 2020). China's position is that Hong Kong will eventually be integrated into mainland China, despite the sentiments of Hong Kong nationalists.

After the transition from British to Chinese leadership, Hong Kong and China have implemented a policy coined the "one country, two systems" approach. Opinions on this approach vary among the residents of Hong Kong. Those who support integration with China favor the one country aspect of this approach and feel that aligning themselves with mainland China will bring stability to the region. It is no surprise that those who sit on the other side of the argument favor the two systems aspect of this approach and want the sovereignty of the Hong Kong administrative unit to remain autonomous. Many of these supporters are advocating for a transition to more democratic policies and freedom for the people of Hong Kong (Wong, B.; Mak, J., 2019).

For many years China ruled Hong Kong, but the Qing Dynasty of 1842 shifted this. The United Kingdom began their reign of the region shortly after, and the Treaty of Nanking sealed this change in power. For a brief period between 1941 and 1945, Hong Kong was occupied by the Japanese. In 1972, China requested that the United Nations take Hong Kong off of their list of non-self-governing states. This signaled a change in the autonomous status that Hong Kong had been accustomed to. By 1997, China officially regained control over Hong Kong but the British agreed to this under the stipulations agreed upon in the Sino-British Joint Declaration (BBC, 2019). Many of the residents of Hong Kong were optimistic when the power shifted to China because there were some promises that were initially made. China had agreed to keep Hong Kong's independent economic, legal and political system, with the aim of eventually achieving a democratic government (Wong, B.; Mak, J., 2019).

China allowed the island their autonomy during the initial transition; however, this eventually began to change. Their hands off approach shifted over time and attempts at a more democratic government were shot down. As the first decade of the 2000's came to an end, tension between Hong Kong and China intensified. Hong Kong nationalism grew, as China attempted to gain influence over the territory. Travel between mainland China and Hong Kong was made easier as the Individual Visit Scheme was introduced and the Guangzhou-Shenzhen high speed train was built, to allow travelers to easily commute from Beijing to Hong Kong. The Chinese government produced a report in 2014, which stated that Hong Kong should no longer have an independent judiciary system and they should be fully integrated with the Chinese system. This stance made it clear that China had little interest in upholding the promises made in the Sino-British Joint Declaration, and they would not support Hong Kong's desire to move to a democratic system. Hong Kong nationalists were incited, and a heightened desire for independence grew among local groups. Many Hong Kongers began to feel their identity was being taken from them, as their economic and political freedom began to be questioned.

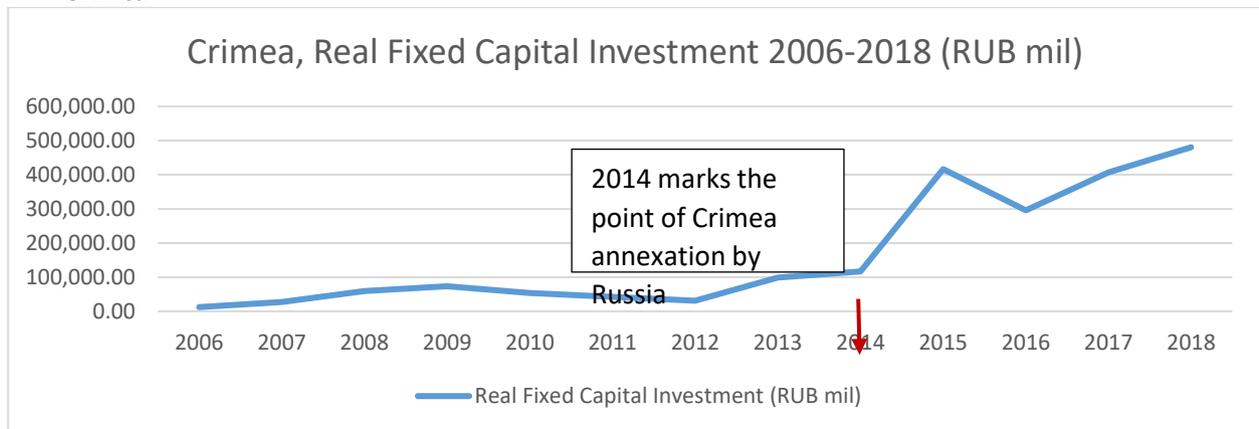
With the Umbrella Revolution erupting in 2014, Hong Kongers began to express their concern through protests (CBBC Newsround, 2019). By this point, it was clear to the international community that China had every intention of dissolving their boundaries that stood between them and Hong Kong. The Chinese police

forces in Hong Kong have not responded well to the protests of young nationalist groups, and in 2019-2020 the clashes caught global attention (Reuters, 2020). The widespread sentiment among Hong Kong protestors is that the Chinese government is eroding their legal system and forcing them into conformity with the rule of law in mainland China. This view was exaggerated with the Fugitive Offenders Bill in 2019, which led many people to fear that China would use this bill to ultimate any political opposition (Mayberry, K., 2019). Protesters in Hong Kong have gathered in masses, and observers have indicated that approximately two million people have been involved in the marches. These protests have only slowed down due to the spread of the Coronavirus in January and February of 2020 (Davidson, H., 2020). The civil unrest in Hong Kong has led to instability in the economic and business landscape in Hong Kong (Scmp, 2020). The economy was pushed into a recession in 2019 and the stock market has been declining (Worldbank). The Chinese government has attempted to censor the media in mainland China from much of the protests in Hong Kong, and for a while they were ignoring much of the riots. Recent voices from China indicate that their characterization of the events in Hong Kong have been colored by a condemnation of the protestors and a sentiment that the West may be spreading misinformation through media channels (Junyi Yang, 2019).

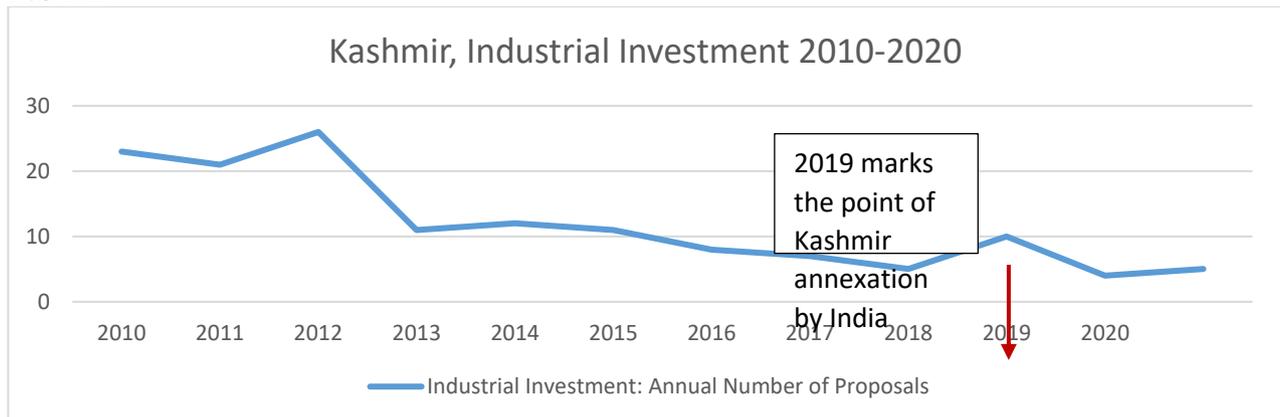
Results (Investment)

The below analysis shows results for investment in each contested region. We see that the major power initially boosted the annexee’s economy with an influx of investment, that eventually trails off post-annexation. The investment spikes are either immediately before the annexation (Hong Kong), immediately following the annexation (Crimea), or the actual year of the event (Kashmir). Although these findings are interesting, they seem to be an indicator of an investment spike that is not substantive for the theory of this work or long-term stability in the contested region.

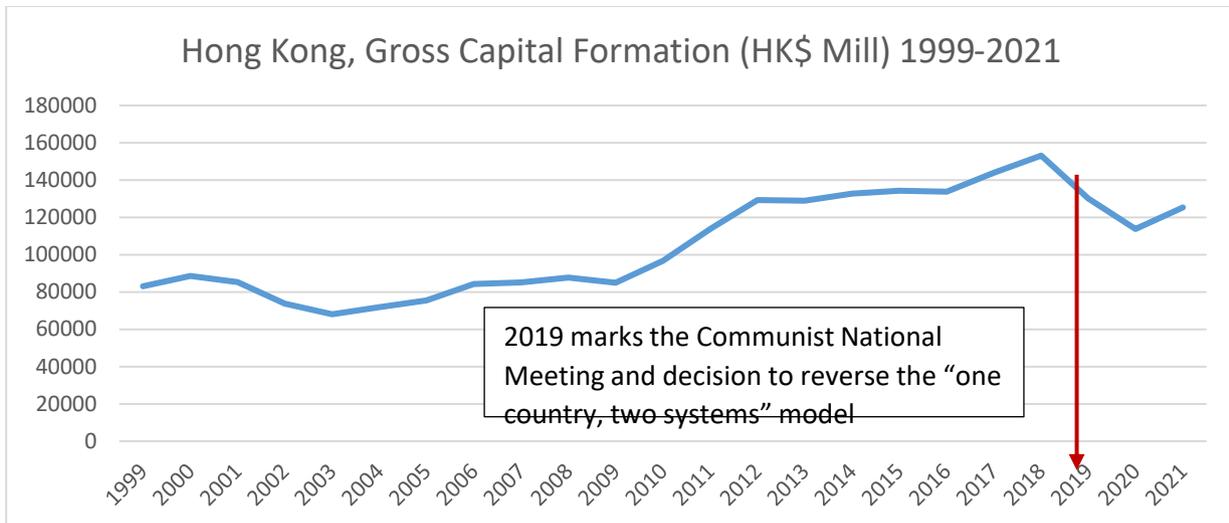
Crimea



Kashmir



Hong Kong



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The effects of the digital age on privacy in the United States

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Keywords

Cambridge Analytica, Data Privacy, GDPR, privacy

Abstract

Over the course of the last 3 decades, the world has seen monumental shifts in how information is collected, transmitted, and disseminated. Every aspect of our personalities that live on the internet, including our browser history, photos we post to social media, our shopping decisions, and our selection of online friends, has been collated, quantified, and assimilated into a digital profile, which has skyrocketing value to an increasing number of businesses. With these developments in technology come the inevitable questions of ownership of such data, its use, misuse, and even possible theft. This paper takes a comprehensive and comparative look at the data privacy legislature in the two largest data hubs in the world, namely the United States and the European Union. The paper also seeks to address the shortcomings of certain, past legislative decisions, and makes a recommendation for the future. To do this, we analyze the events of the past, using the 2016 Facebook/Cambridge Analytica data scandal as a focal point.

Introduction

With legally challenging privacy questions arising frequently in major news headlines and the judiciary system of the United States, it becomes routine for the general public to find subjectively easy answers to objectively hard cases. However, there is nothing simple about drawing lines around privacy. In the volatile age of ransomware, government surveillance, and big data two things remain true. First, Americans feel unprotected and out of control when it comes to their personal data and online privacy. Research conducted by Pew found that 81% of U.S. adults say that “they have very little or no control over the data that... companies collect about them,” yet these results do not end here (Auxier et al. 2019). Pew also found that a similar percent of Americans is concerned with the risk of their data being collected, the lack of control of their data, and the tracking of their actions online (Auxier et al. 2019). While Pew research has also found that 75% of U.S. adults believe there should be more government regulation protecting consumer data, our second truth highlights legal privacy is in constant flux (Auxier et al. 2019).

Throughout history it has been held that the magnitude of rights expands and contracts according to the will of the people and those in power. In one of the earliest writings on American privacy, future Supreme Court Justice Louis Brandeis stated that the “development of law was inevitable” (Warren et al. 1890). In accordance with Brandeis statement, the law is never static; instead, it is constantly in a tug of war between parties with different agendas. The question with privacy is not whether it is in a state of contention, but rather if the necessary policy change to pull privacy in the favor of the individual will be implemented in time. However, before a discussion on the future of privacy in the United States can occur it is necessary to understand the current judicial and legislative position on privacy and the critical cases that established the principle.

Background

Data Privacy in the Courts

Griswold v. Connecticut, 381 U.S. 479 (1965) was the landmark decision in which the Supreme Court found that the right to privacy is established from penumbras found in the Bill of Rights. The Court interpreted that this inferred right to privacy creates a “zone of privacy” for an individual that the government cannot force them to release. *Katz v. United States*, 389 U.S. 347 (1967) furthered the right to privacy by extending the interpretation of the Fourth Amendment to “protect people, not places.” A bound to these privacy rights is found in *Whalen v. Roe*, 429 U.S. 589 (1977) where the Supreme Court found that

collecting and storing sensitive patient information is not a violation of privacy by the Fourteenth Amendment and that the doctor-patient relationship is not within the “zone of privacy.”

The following cases document a relatively new extension of privacy litigation that focuses on the unconstitutional procurement of data. *United States v. Miller*, 425 US 435 (1976) sets the groundwork for the data privacy in the United States today through its “third-party doctrine.” Under this reasoning, an individual should not “reasonably expect privacy in information they willingly disclose to third parties.” *Kyllo v. United States*, 533 US 27 (2001) found that technological searches of a home, by the government, are unconstitutional under the 4th amendment when the device is not in “general public use.” This finding was to protect individuals from “the mercy of advancing technology.” In *Carpenter v. United States*, 585 U.S. ____ (2018) it was held that the warrantless seizure of Timothy Carpenter’s cell-site evidence violated his Fourth Amendment right against search and seizure. Carpenter simultaneously restricts the power of the “third-party doctrine” by deciding that simply because data is “held by a third party does not by itself overcome the user’s claim to” protections under the Fourth Amendment, but instead these protections must voluntarily be reduced.

This very simple history is aimed to prepare the reader for the complex and contrasting nature of privacy within the federal courts. As shown in the examples above, the courts have longstanding legal precedents that did not envision the technological privacy battles that are currently making front pages. This forces the courts to find creative rulings from outdated provisions and tests that do not always put the protection of the people at the center of the decisions.

Data Privacy in the Legislatures

Legislatures across the globe have voiced growing concerns over citizens’ rights to control their own personal data. These concerns give rise to a multitude of questions: Is an individual’s personal data considered that individual’s property? If so, should individuals required to be compensated when their data is used for the economic gain of a third party? Do individuals maintain ownership of their data when personal information is used without their knowledge? Are individuals allowed to demand their data be erased from databanks or archives at their discretion? (What is personal data? 2022)

To answer these questions under the lens of existing legislation and form a pathway forward on what the future legal framework must hold surrounding the privacy of citizens on the internet and related to their data is not easy. Indeed, this is a complex question based in technology that evolves multitude faster than any law that is passed to protect those individuals. However, there are foundational principles that can guide the discussion.

In a seminal article on the right to privacy written in 1890, future Supreme Court Justice Louis D. Brandeis put it this way: “The common law secures, to each individual, the right of determining, ordinarily, to what extent his thoughts, sentiments and emotions shall be communicated to others.” In the next 100 years, the concept grew to include, “the right to informational privacy is succinctly defined as the right of the individual to maintain control over personal information concerning one’s physical and individual characteristics, knowledge, capabilities, beliefs and opinions.” Because of that principle, it is a natural extension to say that an individual also has a right to claim certain rights. Specifically, privacy is the “claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others.”

Perhaps the most fundamental question to ask remains one of property rights: is data property at all? While there is no comprehensive federal law related to data privacy in the United States, we can look to the European Union’s General Data Protection Regulations (GDPR) for potential guidance. Article 4, Clause 1 of GDPR defines data as:

‘Any information relating to an identified or identifiable natural person (“data subject”); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural, or social identity of that natural person’

Classifying an individual’s personal data has multiple positive ramifications. Personal data includes data to which they have a reasonable expectation of privacy, such as their preferences on various aspects of their life such as religion and sexuality, information regarding ethnicity on online employment applications, and conversations that may be had over the internet (for example, via a text messaging service or a social

media network like Instagram). This may even extend to more confidential information like credit card numbers, as an individual's personal property. Perhaps the most significant of these is the well-established right of an individual over personal property, an institution of thought that began with jurists like Bartolus of Sassoferrato, who wrote in the fourteenth century. Bartolus defined property (*dominium*) as the "right of complete control over a physical object, to the extent not prohibited by law" (*ius de re corporali perfecte disponendi nisi lege prohibeatur*). This very definition was later expanded by Bartolus himself, into one that has far reached implications in today's world. Property, he said, "may be used to refer in the broadest sense to every incorporeal right, as in 'I have property in an obligation, for example in a usufruct'" (*potest appellari largissime pro omni iure incorporali, ut habeo dominium obligationis, utputa usufructus*).¹ This establishes a natural right of privacy over an individual's personal property (in this case, personal data). Most notably this has been expanded in "The Right to Privacy" by Warren and Brandeis in the Harvard Law Review in 1890, as the "right to be let alone," arguing that "the principle which protects personal writings and any other productions of? the intellect or the emotions, is the right to privacy."

What modern technology has created is a situation where the law is forever behind the bounds of technology. In practice this means that the definitions of privacy and property are not matched with the actual way we articulate and use them. The challenge has been expanding definitions of property into currently existing frameworks, to accommodate data and what it includes. All it takes is one data breach to remind each of us how important these protections and their lack impact each of us.

Is Data Property?

Before we can fully address whether there is a privacy right in an individual's data, we should first examine whether data is property. That requires a clear understanding of what we mean by data.

Data takes multiple forms, some classified as general facts or information. Data generally has no restrictions imposed that defend individuals in regard to collection and publication of data. However, the data that concerns one's "physical and individual characteristics, knowledge, capabilities, beliefs and opinions" as in *Downing v. Municipal Court of San Francisco* that is of note here. The word 'property' has been the subject of innumerable definitions, and in *Downing*, the court took the position that "the word property is all embracing, so as to include every intangible benefit and prerogative susceptible of possession or disposition". This interpretation of property was expanded in *Kremer v. Cohen*, where the Ninth Circuit applied a three-part test regarding the existence of property rights. "First, there must be an interest capable of precise definition; second, it must be capable of exclusive possession or control; and third, the putative owner must have established a legitimate claim to exclusivity." Data meets this test because it has a precise definition (See the GDPR definition above). It is also exclusively controlled by the owner with a license to those the data is given, sold, or shared with. And finally, personal data is personal by its very nature. It is owned by the person the data describes unless an alternative agreement is reached. As a property I own, I can sell it to someone if I decide it is valuable. The corollary is that I continue to own that data unless I choose to sell or license it to someone.

Because data is property, the rights that define property are then naturally extended to data, including the right to "use it as one wishes, to sell it, give it away, leave it idle or destroy it." These rights tend to entail the following:

The Right to Use as One Wishes

When personal data (ie. the data used to identify an individual on the internet, also called a digital fingerprint) is communicated to a third party, the user/owner has a reasonable expectation that the third party will keep said data confidential. It is more interesting to look at the expectation that the law has of the third party. "The common law secures to each individual the right of determining, ordinarily, to what extent his thoughts, sentiments, and emotions shall be communicated to others."² The law has also upheld that the provision of personal data to a third party does not transfer the ownership of the data from the user to said

third party, as evidenced by the Ninth Circuit's ruling in *HiQ Labs v. LinkedIn*, wherein the appellate court held that the members had a privacy interest in their data that LinkedIn had to protect. The court stated that "LinkedIn has no protected property interest in the data contributed by its users, as the users retain ownership of their profiles."

While the United States doesn't have a broad data privacy law, we can look to California and European Union laws for some guidance on how the federal government could construct a law that clarifies the rights individuals have to control the use of their personal data. First, the CCPA Right to Opt-Out law gives consumers in California limited rights against data selling businesses. Specifically, it affords consumers the "right to, at any time, direct a business that sells personal information about the consumer to third parties not to sell the consumer's personal information. This right may be referred to as the right to opt-out." Under the GDPR, consumers have expanded rights that include the right to be forgotten. This regulation provides that the data subject shall have the right to obtain from the controller the erasure of personal data concerning him or her without undue delay and the controller shall have the obligation to erase personal data without undue delay. . ."

The Right to Sell

If we can reasonably assume that an individual has the right to sell property and this right extends to personal data, this brings into question the concept of assigning value to an individual's personal data. It also brings into consideration who decides the value and, the parameters that are used to arrive at said value. Another concept of note is how prospective damages are to be calculated, in the case of theft of an individual's personal data.

The Right to Give Away

A corollary to the right to sell is the Right to Give Away, or transfer, one's personal data. This may be the area of property law where arguably the largest differences exist between tangible physical property and intangible personal data. The concept of transferability states that property can be "assigned, sold, transferred, conveyed or pledged," leading to the natural conclusion that that which cannot be transferred is not property. In the matter of intangibles, the concept of 'transferability' has been interpreted to apply to a relinquishment of the owner's rights to said property, which could allow others to use data whose use may have been restricted by a right to privacy. This principle runs into obstacles when taken in context of recent data privacy and regulation legislature, such as the CCPA and the GDPR. The wording of the aforementioned laws and regulations are an indication of the intent that a data subject cannot relinquish their rights over personally identifiable information (PII) in their entirety. Instead, they may license to the business the right to use that data for certain purposes, such as when Netflix uses your geographic location to recommend a movie that is trending in your country, or Amazon uses your location to alert you that a product that may not reach your address within a stipulated timeframe. However, these restrictions do not circumvent the classification of data as property, even if certain rights are restricted or precluded by specific legislature in select jurisdictions.

The Right to Destroy

Does an owner have a right to tell a third party to destroy that individual's data that has been mined and collected by the third party? Without this key property right, can data truly be owned by the person the data is created by or used to describe? If I own my home, I can destroy it for any or no reason so long as insurance fraud or other harm is not conferred on another person or company. I can do the same with my personal property. However, the right for me to destroy or order a third party to destroy my data is difficult to enforce. That difficulty does not preclude my ownership of that data.

Data Protection Principles found in the United Kingdom's Data Protection Act, the British implementation of the European GDPR, can be helpful in providing a framework for the obligations a third party has to protect individual's data that it either collects or is entrusted with for any reason. This act states the following:

Everyone responsible for using personal data has to follow strict rules called 'data protection principles. They must make sure the collected information is:

- Used fairly, lawfully, and transparently
- Used for specified, explicit purposes

Used in a way that is adequate, relevant, and limited to only what is necessary

Accurate and, where necessary, kept up to date

Kept for no longer than necessary and

Handled in a way that ensures appropriate security, including protection against unlawful or unauthorized processing, access, loss, destruction, or damage

There is stronger legal protection for more sensitive information, such as information related to race, ethnic background, political opinions, religious beliefs, trade union membership, genetics, biometrics, health, sex, and sexual orientation.

Under the Data Protection Act of 2018, you have the right to find out what information the government and other organizations store about you. These include the right to: be informed about how your data is being used, access personal data, have incorrect data updated, have data erased, stop, or restrict the processing of your data, data portability, and object to how your data is processed in certain circumstances.

The United States operates on a primarily sectoral approach, with data privacy legislation being implemented on an ad hoc basis. This allows different sectors, such as those of healthcare, financial services, and education to have separate, tailored data privacy laws. These include the Health Insurance Portability and Accountability Act (HIPAA), Genetic Information Nondiscrimination Act (GINA), Gramm Leach Bliley Act, and Family Educational Rights and Privacy Act (FERPA) to name a few. The challenge in the United States then stems from the lack of a unified federal data protection law, to regulate the protection of personal, identifiable data, and represents what is arguably the biggest flaw in the United States' approach toward an individual's right to privacy and ownership over personal data on the internet.

What was the Facebook/Cambridge Analytica Data Scandal?

In March 2018, David Carroll, a professor at the Parsons School of Design in New York filed a legal challenge in Britain, requesting the court to require Cambridge Analytica to disclose the alleged '5000 data points' that it had on every American Voter. The filing of the challenge reverberated across the world, and the crowdfunding case became an international spectacle in part thanks to the Netflix documentary *the Great Hack*. However, the roots of the scandal are much deeper and broader than one man or one documentary. The scandal has become well known for shining a scathing light on the commercial advertising-technology marketplace that utilizes innumerable data mining techniques to track, identify, and specifically target users across the internet and online platforms. Facebook banned Cambridge Analytica from the network, in a too little, too late effort, claiming Cambridge had siphoned the personal information of over 87 million Facebook users and had failed to delete the same as requested.

The Cambridge Analytica scandal created global shockwaves for a multitude of reasons, some well-known, such as the stark lack of privacy that a user of the popular social media network Facebook could expect, or the sheer volume of users (approximately 50-65 million according to Ingram, 2018) who had data mined, processed, and misappropriated. While some reasons are not as well known, one of them is the nascent stages that American Federal Data Protection legislature was in when compared to that of the European Union or the United Kingdom.

Why does this matter? The Facebook/Cambridge Analytica data breach has been alleged to have contributed to Trump winning the presidency in 2016. Beginning in 2013, Aleksandr Kogan, a professor, and data researcher at Cambridge University, developed an application for a personality quiz, named "This is Your Digital Life". The application would appear on the social media network, Facebook in 2014, and claimed to its users that the "results of the quiz would be used for academic purposes". Approximately 270,000 people consented to divulging personal data, and data about their Facebook friends, which was permitted at the time under Facebook's policies (subject to user's individual privacy settings). Most didn't realize they were divulging access to their personal data stored on the app as well as giving access to their friends' data, although that was included in the terms and conditions of using the quiz.

An article in *The Guardian* in December 2015 alleged that Kogan sold confidential information mined through the "This is Your Digital Life" app to Cambridge Analytica through his company Global Science Research. This was a clear violation of Facebook's policies. In the weeks and months that followed, Cambridge Analytica developed psychological profiles for tens of millions of US voters in order to support Ted Cruz's presidential campaign, using the data sold to them by Kogan. Following the publishing of the article, Facebook removed the application from its site and privately asked GSR and Cambridge Analytica

to delete the data stored about the users and was assured that the pertinent information had been deleted. However, Facebook did not take steps to confirm this. Three years later, stories published by the *New York Times* and *The Guardian* alleged that the Cambridge Analytica lied when it said the data had been deleted and instead had used it in connection with President Donald Trump's campaign. Cambridge Analytica, its parent company, and relevant employees were suspended from the Facebook Platform.

These revelations resulted in three major legal actions, which have three different perspectives to the current state of data privacy legislature within the United States. First, David Carroll's formal legal claim against Cambridge Analytica's parent company, SCL, through a UK based human rights lawyer, on the advice of Swiss research specialist and the founder of a digital rights non-profit, Paul-Olivier Dehaye. Carroll's claim was pursuant to the provisions of the UK's Data Protection Act of 2018, which states that a data subject has the right to access personal data that was being processed or stored by the government or a company. Approximately a month later, Carroll was served with a response to his claim, which consisted of information including his opinion on issues like national debt, immigration, and gun rights; however, the information was nowhere near the 5000 data points that Cambridge Analytica claimed to have on every American voter through the data it had collected. As the movement gained international attention and Carroll pursued legal action against the company, his data was never turned over to him. Over the course of the next two years however, the involvement of the UK Information Commissioner's Office and the FBI proved to be a significant catalyst to expedite the process. By providing Carroll with a portion of his information, SCL had agreed that the UK's Data Protection Act applied to non-British citizens, as long as the data was processed within the UK, as Cambridge Analytica did. In addition, by refusing to provide Carroll with the data in its entirety, SCL violated the Act and was liable.

As of January 2020, Carroll was quoted saying "I haven't had my data back yet. We are awaiting the report from the UK Information Commissioner's Office, the organization responsible for regulating these matters. It is a process in which we may have to wait for notifications from the FBI and the British parliament" (Fischer, 2019). The GDPR has made considerable strides on the data protection front, and "applies to the processing of personal data of data subjects who are in the Union by a controller, or a processor not established in the Union." The CCPA is the first step in the right direction for a US law but only applies in California. The lack of a federal law regarding data privacy leads to several gray areas, with little to no consistency on the rules with which organizations must comply.

A second lawsuit involved the Facebook Inc. Securities Litigation. The lawsuit was filed by purchasers of Facebook common stock between 3rd February 2017 and 25th July 2018, alleging that Mark Zuckerberg, Sheryl Sandberg, and David M. Wehner deliberately misled investors about the course of dealings with Cambridge Analytica, in violation of Section 10(b), 20(a) and 20A of the Securities Exchange Act. The suit further argues the investors were led to believe that omissions "concerning Facebook's privacy and data privacy practices" would not have a negative implication on Facebook's stock prices during the time periods of March and July 2018. A third lawsuit complemented the securities lawsuit. In the Facebook Inc. Consumer Privacy User Profile Litigation, an action by social media users against Facebook, the plaintiffs alleged Facebook shared the user's personal information with third parties when Facebook did not have a right to share the information. Facebook filed a barrage of motions to dismiss, some of which were accepted by the court.

In both lawsuits, the court held that Facebook had no obligation to confirm the deletion of data by Cambridge Analytica and SCL, owing to the fact that nowhere in Facebook's data policy was there a representation that Facebook would confirm deletion. Instead, the policy only represents that Facebook would "require data to be deleted," with no guarantees about how Facebook would enforce that requirement.

This judicial ruling highlights the need for federal legislation regarding data privacy, storage, processing, etc. This is especially relevant as one seeks to draw parallels between the offenses that Facebook was found guilty for in the US, and the policies that it would have been found to be in contravention under the GDPR. A fairly well-established provision of the GDPR under Article 17 is the Right to Erasure of the Right to be Forgotten. Clauses (1) and (2) state that when a data subject has made a request of erasure of personal data concerning them, the controller shall have the obligation to erase said personal data without undue delay, taking account of available technology and cost of implementation, taking reasonable steps to

accomplish the same. On the surface, this seems to be fairly in line with Facebook's data policy concerning deletion. What sets the GDPR and the UK Data Protection Act of 2018 as a higher standard is the clear definition of penalties to be imposed if requests are not reasonably complied with. Article 77 grants a data subject the right to lodge a complaint with a supervisory authority, in the member state of their habitual residence, detailing the alleged infringement committed, following which they are to be kept updated on the progress or the outcome of the complaint, which may result in fines (to be established by the relevant member state) (Article 83 & 84), judicial action against the defendant (Article 78 & 79), and the right to compensation for the plaintiff (Article 82). In the case of Cambridge Analytica, the UK's Information Commissioner's Office issued an order directing the firm to supply Carroll with his data within thirty days, failure to comply with which would result in criminal charges.

The fourth action occurred at the Federal Trade Commission (FTC). The FTC found Cambridge Analytica liable on multiple counts, including its practices concerning the collection of Personally Identifiable Information, its claims regarding its participation in Privacy Shield - a framework designed by the US Department of Commerce, the European Commission, and the Swiss Administration in order to provide companies on both sides of the Atlantic with a mechanism to comply with data protection requirements when transferring personal data from the EU and Switzerland to the United States in support of transatlantic commerce - and the subsequent adherence to the provisions of the framework. The first count, that of misrepresentation, arose out of a statement that anyone who downloaded the Cambridge Analytica survey on Facebook would see, which stated that, "In this part, we would like to download some of your Facebook data using our Facebook app. We want you to know that we will NOT download your name or any other identifiable information - we are interested in your demographics and likes." The court found the statement was misleading, following evidence that the company had in fact harvested, downloaded, and misappropriated the user's PII. The counts regarding the Privacy Shield framework and the subsequent compliance with its principles, stemmed from the fact that Cambridge Analytica did not renew their certification of compliance with the Privacy Shield, and therefore was in contravention of the policies codified by the framework. The lawsuit, although monumental, and may set precedent for the future, was born out of the lack of a federally regulated data privacy and protection statute, and is one of the most indicative signs that the United States has fallen behind the EU and the United Kingdom in this aspect, and a federally regulated statute would serve as the broadest possible authority with regard to data privacy, as opposed to the currently used ad hoc patchwork system.

Why isn't everything Data Misappropriation?

In many large cases with claims of data misuse and misappropriation, it is easy for an individual to find the accused party guilty at first examination, but quick glances are not always accurate. In 2009 the American Recovery and Reinvestment Act gave the Department of Energy the ability to provide funds to cities through the Smart Grid Investment Grant program with the goal of modernizing the nation's energy grid. Naperville, Illinois was one of the cities selected under this grant program to receive \$11 million to modernize their own grid (*Naperville Smart Meter Awareness v. City of Naperville* 2018). In this modernization, Naperville replaced their old energy meters with "smart meters." The traditional meters would measure monthly "energy consumption in a single lump figure once per month," but the new smart meters recorded energy consumption data in "fifteen-minute intervals." Because of distinct "load signatures" exhibited by appliances in these data measures, it can be predicted with great accuracy what appliances are in each home and at what times they are being used. Upon learning about this perceived breach of privacy, a group of citizens whose homes were now using the new smart meters created Naperville Smart Meter Awareness to bring suit to the program. Their argument alleged that the smart meter system implemented by the City of Naperville was a direct breach of the Fourth Amendment and was therefore an unlawful search and seizure of data. The United States Seventh Circuit Court looked at the following two questions to measure the validity of the plaintiffs claim. First, is the data collection in this case truly a search? Second, was the search unreasonable as stated in the Fourth Amendment?

For the first question, the court looked specifically to the previous mentioned case *Kyllo v. United States* [2001] 533 U.S. 27. In *Kyllo*, the Supreme Court ruled that when sophisticated technology provides information that would be "unknowable without physical intrusion, the surveillance is a 'search.'" As mentioned by Smart Meter Awareness, the collection of data through the smart meters provides extreme

personal data and routines that would not be accessible without a physical search. The court also notes that in *Kyllo* the ‘search’ was via thermal imaging tools and provided more crude data than the constant stream of 15-minute datapoints collected by Naperville. From these arguments the court found that the non-voluntary implementation of smart meters was indeed a ‘search’ of the residents’ homes. However, the court still had to decide if the collection of this data met the Fourth Amendment requirement of being unreasonable?

For this second question, the court mainly points to the precedent of *Camara v. Municipal Court* [1967] 387 U.S. 523. to examine the reasonableness of the search. While the court finds the smart meter’s collection of data to be a warrantless search, the court also must consider that the City of Naperville had “no prosecutorial intent” when committing the search. In *Camara* the Supreme Court takes note of this intent and states that it “is a less hostile intrusion” since it is not to find criminal evidence, which allowed the court to examine fewer protections and only focus on the “right to be secure from intrusion into personal privacy.” While this situation is similar to Naperville, the court found that the threat posed by smart meters is not as high as the situation threats in *Camara*, like lack of physical entry into the homes and the diminished chance of situational prosecution. These distinct differences in relative chance of prosecution separated the two cases from receiving the same outcome. The court also explained the need to weight privacy concerns against the “government interest in data collection.” In this situation the court held that the role smart meters play in the modernization of the electoral grid is high enough to warrant the collection of data from the public. Because of these two reasons, the court ruled that the warrantless ‘search’ of property through the smart meters was not unreasonable because it served a genuine government interest without being unreasonably intrusive. However, the court mentions that this ruling is a narrow one and that if minor details of this case were changed, the ruling would change with it. Nevertheless, this case serves to show that there are many situations in which, at a first glance warrantless searches, through innovational technologies look unreasonable yet are found reasonable through the review of the courts. Narrow rulings, such as *Naperville Smart Meter Awareness v. City of Naperville*, play a large role in the general, undefined, and murky world of tech privacy in the United States.

The Future

Data privacy is a complex and cutting-edge issue that has been thrust further into focus by recent cases like Cambridge Analytic. The United States is currently tasked with developing a rigorous legislative backbone that defends individuals’ data across the nation. Building on the regulatory successes of the GDPR in Europe and the CCPA in California, two logical regulatory approaches arise.

Congressional Legislation

The United States could create federal legislative policy that promotes and protects data privacy in a top-down approach. This style of regulation is already underway in Congress under the title of the American Data Privacy and Protection Act (ADPPA). Following very closely to the groundwork set by the GDPR, the ADPPA outlines consumer data rights and corporate accountability measurements to create regulation protecting consumer data under the authority of the Federal Trade Commission (FTC). The ADPPA would cover the lack of a unified federal data protection legislature, which is undoubtedly data privacy’s biggest weakness in the United States. It is what leads to the current sectoral approach, which allows independent industries to draft and enforce data privacy legislature, with little to no uniformity leading to contradictory and overlapping protection for citizens. However, there is another opportunity for privacy reform in the United States.

Code Regulation

If the ADPPA becomes stalled and does not pass-through Congress, another opportunity to create nationwide regulation comes from enacting a code on the State Legislative level. Similar to the regulatory code of the UCC, the United States could hire independent experts from institutions, such as the American Law Institute, to develop a set of regulatory codes for data privacy. This set of regulatory code would then be given to every state legislature to make individual revisions to and ultimately vote it into law. While there is always the risk that multiple states could reject the code created by this body, there are many strengths found from this model. Under this system, every state would be able to implement regulatory laws that protect their citizens in a broad and definitive manner, but also allow for freedom to individual

expand the regulations as data becomes more complex. This adaptability allows for data regulation to continually change with new problems, instead of remaining dormant by a gridlocked Congress or other pressing federal matters. The individual changes of the states would also create a regulatory umbrella.

California is perhaps the closest replicable example for the American legislators, as the CCPA enshrines some of the strictest data privacy laws ever seen in the United States. It is not only significant for the fact that it required identical controller/processor requirements to the GDPR, but for the way it views an individual's right to data privacy. Just as the EU regards data privacy as a fundamental human right and seeks to build the provisions of the GDPR around that central right, the California Constitution views "privacy" as an inalienable right, not to be limited by other rights.

Whether the United States' data privacy regulation is formed through congressional legislation or regulatory codes is of minor importance when compared to the necessity of any form of regulation.

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Challenges in quality of education in higher education institutions of Pakistan

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Keywords

Curriculum, Corruption, Teacher's Behaviour, Research Work

Abstract

This study's objective is to identify the conflicts between academic achievement and other values in Pakistan's higher education institutions (HEIs). The formulative research approach is used to complete the study's objectives faster and more affordably. The past few years have seen significant disagreements in Pakistan's academic community. This study seeks to identify the conflicts over educational quality that Pakistan's higher education institutions have been having for the past few years. The researcher employed triangulation to assess the validity and trustworthiness of the details supporting the conclusion. The researcher employed surveys for students, instructor questionnaires, and management interviews to carry out this triangulation. 100 surveys from each university were completed by students and teachers from the targeted five institutions. This research's objective will surely make a big contribution to Pakistan's advancement. The Quality of Education is the dependent variable in this study, while the Curriculum, Educational Corruption, Fewer Training Institutions, Teacher Behavior, and Less Research Work are all Independent Variables. To raise the standard of education in Pakistan, we shall keep looking into how people have responded to these conflicts. All Pakistani people are required to be literate, according to the government of the nation.

Introduction & Background

What does quality entail in the context of academics is a very intriguing subject. There are numerous ways to define excellence in education, which highlights the difficulties and varied nature of the choice. Despite this, a good education explains:

Novices who are competent, healthy, and ready to learn through connections, comprehension, and education supported by their people (families) and associations

Environments that are safe, secure, gender-sensitive, and contribute enough resources and services.

It is true that the engine of societal advancement is education. As Adams said in 1988, "Education is a key part of any society's progress. It is regarded as one of a society's principal cornerstones.

Evidently, education fosters interpersonal understanding regarding conflicts and survival on the planet. The system still has to be modified in order to reflect social humanity. As a result, despite its 74-year presence from 1947 to 2021, Pakistan still faces challenges related to the global decline in the number of literate people.

The Pakistani educational system has five distinct levels. They are as follows:

Levels	Class
Primary Tier	1 - 5
Middle Tier	6 - 8
Secondary Tier	9 - 10
Intermediate Tier	11 - 12
University Tier	13 onwards

After focusing on the various educational levels, if we consider schools, colleges, and universities, we discover that they may also be divided into three categories as follows:

Government Institutions	Schools + Colleges + University
Private Institutions	Schools + Colleges + University
Madaras	

The excellence of academic institutions (HEIs) in Pakistan currently has a subpar framework. Possibly realizing that education is the foundation of a country's progress. Numerous research on this industry have been conducted. The main goal of this study is to identify the factors impacting the academic brilliance in Pakistani higher education institutions (HEIs). Without a doubt, the fundamental research problem in academic sectors is a component of total quality management (TQM). Various surveys claim that 60 percent of Pakistan's population is literate, however the reality is significantly different. Temporary results of the problems were contributed by earlier studies. These simply offered issues, not solutions or suggestions related to state-run higher education institutions.

As a result, Pakistan's current economic situation resembles that of a patient on a ventilator because the academic sector has also suffered the most negative effects. The following is a result of the Islamic Republic of Pakistan's constitution: "The state of Pakistan shall abolish illiteracy and provide free and obligatory secondary education with minimum possible term."

The study focuses on a thorough examination of conflicts over quality in teaching and learning in Pakistani higher education institutions (HEIs). Important conflicts and their recommendations are discussed in this investigation. This research has the advantage of being beneficial to the general public, the target demographic, managers, policy makers, trainers, and students.

Problem Statement

The study is typically focused on identifying factors that affect the quality of teaching and learning in Pakistani Higher Education Institutions (HEIs).

Research Questions

Q1. What obstacles exist for our nation's higher education institutions (HEIs) to provide the best possible learning and education?

Q2. Which of the following responses must be provided in order to improve the quality of teaching and learning in institutions (HEIs) in our nation?

Research Objectives

The following research objectives were the main emphasis for the researcher:

Primary Goals:

To identify the conflicts regarding the quality of teaching and learning in Pakistan's higher education institutions.

Secondary Goals:

To establish a link between Less Training Institutions and Quality of Education.

To establish a link between Curriculum and Quality of Education.

To establish a link between educational corruption and educational quality.

To establish a link between the behaviour of teachers and the calibre of instruction.

To establish a link between Education Quality and Less Research Work.

Importance of the Study

The following are obviously significant effects of this research:

The research will provide more information to aid academics in their further investigation of the conflicts in the nation's HEIs' excellence in learning and education.

Researchers will benefit from this study's exposure of problematic areas in the educational process that they were unable to explore in earlier studies.

The information gathered will aid managers in formulating strategies and making decisions.

This study will also assist policy makers in formulating proposals for new regulations that are crucial for staff training, addressing gaps in existing regulations, and other specifics.

Theoretical Structure

The theoretical framework for this study was developed by looking at how the parameters related to one another. Quality of Education, Curriculum, Less Training Institutions, Corruption in Education, Teachers' Behavior, and Less Research Work were the parameters in this study. The Curriculum, Less Training Institutions, Corruption in Education, Teacher's Behaviour, and Less Research Work were the independent variables. The dependent variable was the Quality of Education.

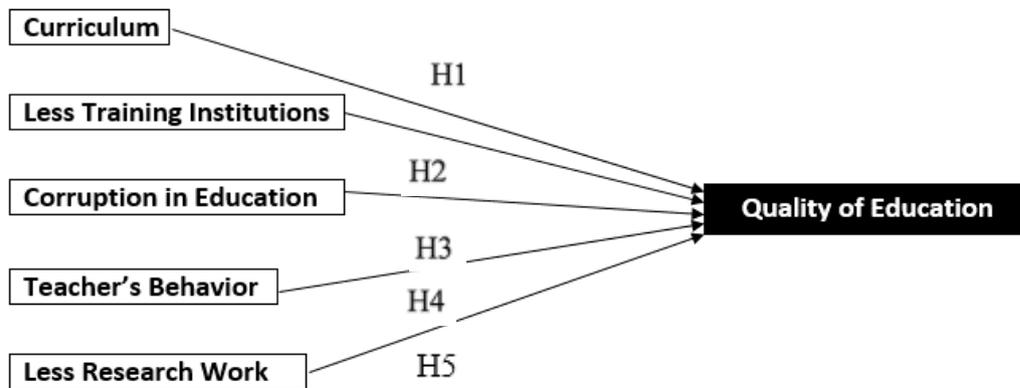


Figure-6 Schematic Diagram of Variables

The figure 1 indicates the connection of the parameters/ variables.

The independent variables Curriculum, Less Training Institutions, Corruption in Education, Teachers' Behavior, and Less Research Work are all related to the dependent variable Quality of Education.

Research Hypothesis

From theoretical framework, the following research hypothesis may be made:

H1: There is a definite correlation between curriculum and quality of education.

H2: There is a definite correlation between less training institutions and quality of education.

H3: There is a definite correlation between corruption in education and quality of education.

H4: There is a definite correlation between teacher's behavior and quality of education.

H5: There is a definite correlation between less research work and quality of education.

Review of Literature

In the dynamic and quick-paced world of today, the education sector, particularly the public sector, is greatly influenced by business management techniques. Total Quality Management is one such technique that has permeated the government sector. TQM is an integrated management concept that has been applied at all levels of government, suggesting that it won't work if done in bits (Oakland, 2003).

Total Quality Management (TQM) is a direct procedure that aims to increase effectiveness, reduce costs, and improve quality; therefore, it is obviously compatible with higher education (James and James, 1998). Although many American academics have embraced the Total Quality Management approach, there are still some instances when the standard of academic work has not greatly improved. There is little doubt that academic quality has to be improved, notwithstanding improvements in infrastructure, administrative procedures, and student and staff happiness (James and James, 1998).

There is a difference between institutional and individual motivations for educational advancement, according to earlier studies (Amundsen and Wilson 2012; Trowler and Bamber 2005). To transform individual educators' ideas of teaching and learning and link this to teaching practises, single reasons examine the main justification for teaching training courses to be committed for faculty members in a process of individual imprint on education. The growth of higher education is then viewed as a personal and discretionary endeavour. On the other hand, institutional grounds are connected to strategy planning and quality assurance (D'Andrea and Gosling 2005; Havnes and Stensaker 2006). Instead, then concentrating on the teacher, the system as a whole need to change. Typically, development leads are controlled and follow an institutional strategy (Amundsen and Wilson 2012). Making the courses mandatory will undoubtedly have a positive impact on institutional change and raise educational standards (Havnes and Stensaker 2006; Trowler and Bamber 2005).

With these two viewpoints in mind, the main anticipation is that one instructor who will be significantly impacted by the HETT courses will transform the institution and raise the bar for excellence. Intellectuals, who contend that the relationship between instructional development and institutional change is not automatic and calls for further research, disagree with the automated change plan since it is effective

from an institutional aspect (Gibbs and Coffey 2004; Trowler and Bamber 2005). According to N.A. Jafarey, Pakistan's lack of scientific research is caused by a culture that disfavors original thought and critical analysis.

Without a doubt, higher education is viewed as a capital investment in the education sector in the modern world (World Bank, 1990). In order for any community to grow, higher education is crucial. Education institutions are crucial in preparing gifted professionals to serve the community (Khurshid, 1998).

Without a doubt, both the government and the professors undervalue research labour in Pakistani higher education. Students continue to lack knowledge about research techniques as a result. The outcome indicates that the learner's comprehension of critical analysis is unclear. The lack of funding for research is the second contributing reason. It's true that research is significant, especially for undergraduate students. Despite the fact that getting a job in the market is vital for researchers.

Methodology

An exploratory strategy has been used in this study paper. Applying this strategy aims to identify conflicts in educational/learning excellence in Pakistani institutions (HEIs).

Five universities were selected as a sample based on resemblance, with the criteria that they were all affiliated with government departments and involved in comparable local authorities. The same setting, reliance on a comparable superior ministry, location, and classification served as justifications for this sample's preference. A total of 500 questionnaires were completed by students and faculty from the targeted five universities, one from each institution.

Table 1.1

S.No.	University	Students	Teachers	Management
1	A	95	5	3
2	B	95	5	5
3	C	95	5	4
4	D	95	5	3
5	E	95	5	4
Total		475	25	19

Data from 475 students (questionnaires), 25 teachers (questionnaires), and 19 management staff (interviews) from the five universities under consideration are described in Table 1.1.

The researcher employed triangulation to assess the validity and trustworthiness of the details supporting the conclusion. The researcher employed student surveys, teacher questionnaires, and meetings (interviews) with management to carry out this triangulation. The data from the questionnaire was collected using Google Forms. Using this technique, actual audience responses were reflected.

Data Analyses

Research Question 1: What obstacles exist for our nation's higher education institutions (HEIs) to provide the best possible learning and education?

In this section, the statistics acquired are provided with a descriptive overview. Table 1.2 provides an examination of the students' comments on the factors.

Likert Scale:

1	2	3	4	5
Strongly Agree (SA)	Agree (A)	Not Sure (NS)	Disagree (DA)	Strongly Disagree (SDA)

Summary of Students Feedback

Table 1.2

Factors	University	SA	A	NS	DA	SDA	Total	%age
Curriculum		55	22	3	9	6	95	57.89
Less Training Institutions		59	19	2	10	5	95	62.11
Corruption in Education	University A	62	17	6	8	2	95	65.26
Teacher's Behaviour		72	18	0	4	1	95	75.79
Less Research Work		65	12	1	6	11	95	68.42
Quality Education		70	8	5	2	10	95	73.68
Curriculum		60	15	7	3	10	95	63.16
Less Training Institutions		71	22	1	0	1	95	74.74
Corruption in Education	University B	69	8	4	5	9	95	72.63
Teacher's Behaviour		85	7	1	1	1	95	89.47
Less Research Work		77	14	0	2	2	95	81.05
Quality Education		83	9	3	0	0	95	87.37
Curriculum		61	9	6	11	8	95	64.21
Less Training Institutions		73	12	3	4	3	95	76.84
Corruption in Education	University C	65	8	5	7	10	95	68.42
Teacher's Behaviour		82	5	1	3	4	95	86.32
Less Research Work		68	13	7	5	2	95	71.58
Quality Education		76	7	8	1	3	95	80.00
Curriculum		68	10	4	10	3	95	71.58
Less Training Institutions		70	11	8	2	4	95	73.68
Corruption in Education	University D	78	2	5	5	5	95	82.11
Teacher's Behaviour		84	6	3	1	1	95	88.42
Less Research Work		87	5	0	0	3	95	91.58
Quality Education		77	13	1	3	1	95	81.05
Curriculum		66	13	9	2	5	95	69.47
Less Training Institutions		78	7	2	1	7	95	82.11
Corruption in Education	University E	70	8	6	3	8	95	73.68
Teacher's Behaviour		81	4	1	5	4	95	85.26
Less Research Work		85	2	4	2	2	95	89.47
Quality Education		87	3	3	1	1	95	91.58

Table 1.2 lists the frequency and percentage of students who responded to the researcher's questions about the elements that influence learning and teaching quality in institutions (HEIs) across the nation (Pakistan). Out of the 475 respondents at University A, 55 (57.89%) gave the SA that updated curriculum is important, 59 (62.11%) gave the SA that more training institutions are needed, 62 (65.26%) gave the SA that corruption in education is a problem, 72 (75.79%) gave the SA that teachers' behaviour is important, 65 (68.42%) gave the SA that less research work in higher education institutions exists, and 70 (73.68%) gave the SA that there lack quality education.

For University B, out of the 475 respondents 60 (63.16%) answered SA that updated curriculum is important; 71 (74.74%) answered SA that more training institutions are needed; 69 (72.63%) answered SA that corruption in education is a problem; 85 (89.47%) answered S.A that teacher's behaviour is important; 77 (81.05%) answered SA that less research work in higher education institutions exists; 83 (87.37%) answered SA that there lack quality education.

For University C, out of the 475 respondents 61 (64.21%) answered SA that updated curriculum is important; 73 (76.84%) answered SA that more training institutions are needed; 65 (68.42%) answered SA that corruption in education is a problem; 82 (86.32%) answered SA that is teacher's behaviour is important; 68 (71.58%) answered SA that less research work in higher education institutions exists; 76 (80%) answered SA that there lack quality education.

For University D, out of the 475 respondents 68 (71.58%) answered SA that updated curriculum is important; 70 (73.68%) answered SA that more training institutions are needed; 78 (82.11%) answered SA that corruption in education is a problem; 84 (88.42%) answered SA that teacher's behaviour is important; 87 (91.58%) answered SA that less research work in higher education institutions exists; 77 (81.05%) answered SA that there lack quality education.

For University E, out of the 475 respondents 66 (69.47%) answered SA that updated curriculum is important; 78 (82.11%) answered SA that more training institutions are needed; 70 (73.68%) answered SA that corruption in education is a problem; 81 (85.26%) answered SA that teacher's behaviour is important; 85 (89.47%) answered SA that less research work in higher education institutions exists; 87 (91.58%) answered SA that there lack quality education.

Summary of Teachers Feedback

Table 1.3

Factors	University	SA	A	NS	DA	SDA	Total	%age
Curriculum	University A	3	1	0	1	0	5	60.00
Less Training Institutions		4	0	0	0	1	5	80.00
Corruption in Education		3	0	1	0	1	5	60.00
Teacher's Behaviour		4	1	0	0	0	5	80.00
Less Research Work		3	0	0	1	1	5	60.00
Quality Education		3	1	1	0	0	5	60.00
Curriculum	University B	4	0	0	0	1	5	80.00
Less Training Institutions		3	2	0	0	0	5	60.00
Corruption in Education		3	0	1	0	1	5	60.00
Teacher's Behaviour		4	0	0	0	1	5	80.00
Less Research Work		5	0	0	0	0	5	100.00
Quality Education		4	1	0	0	0	5	80.00
Curriculum	University C	4	0	0	0	1	5	80.00
Less Training Institutions		2	1	0	1	1	5	40.00
Corruption in Education		3	1	0	1	0	5	60.00
Teacher's Behaviour		5	0	0	0	0	5	100.00
Less Research Work		2	2	0	0	1	5	40.00
Quality Education		3	0	1	0	1	5	60.00
Curriculum	University D	0	0	0	2	3	5	60.00
Less Training Institutions		0	1	0	1	3	5	60.00
Corruption in Education		1	0	0	2	2	5	40.00
Teacher's Behaviour		0	0	0	3	2	5	40.00
Less Research Work		0	0	0	1	4	5	80.00
Quality Education		1	0	2	1	1	5	20.00
Curriculum	University E	1	1	0	1	2	5	40.00
Less Training Institutions		0	0	1	0	4	5	80.00
Corruption in Education		0	1	0	1	3	5	60.00
Teacher's Behaviour		0	1	0	0	4	5	80.00
Less Research Work		1	0	1	1	2	5	40.00
Quality Education		0	2	0	0	3	5	60.00

Table 1.3 shows that the frequency and percentage of teachers when questions related to factors were asked by the researcher about confrontations in excellence of learning/education in academia (HEIs) of country (Pakistan). In University A, out of the 5 respondents 3 (60%) answered SA that is curriculum; 4 (80%) answered SA that is less training institutions; 3 (60%) answered SA that is corruption in education; 4 (80%) answered SA that is teacher's behaviour; 3 (60%) answered SA that is less research work; 3 (60%) answered SA that is quality education.

For University B, out of the 5 respondents 4 (80%) answered SA that is curriculum; 3 (60%) answered SA that is less training institutions; 3 (60%) answered SA that is corruption in education; 4 (80%) answered SA that is teacher's behaviour; 5 (100%) answered SA that is less research work; 4 (80%) answered SA that is quality education.

For University C, out of the 5 respondents 4 (80%) answered SA that is curriculum; 2 (40%) answered SA that is less training institutions; 3 (60%) answered SA that is corruption in education; 5 (100%) answered SA that is teacher's behaviour; 2 (40%) answered SA that is less research work; 3 (60%) answered SA that is quality education.

For University D, out of the 5 respondents 3 (60%) answered SDA that is curriculum; 3 (60%) answered SDA that is less training institutions; 2 (40%) answered SDA that is corruption in education; 2 (40%) answered SDA that is teacher's behaviour; 4 (80%) answered SDA that is less research work; 1 (20%) answered SDA that is quality education.

For University E, out of the 5 respondents 2 (40%) answered SDA that is curriculum; 4 (80%) answered SDA that is less training institutions; 3 (60%) answered SDA that is corruption in education; 4 (80%) answered SDA that is teacher's behaviour; 2 (40%) answered SDA that is less research work; 3 (60%) answered SDA that is quality education.

Transcription of Interview by the Management

In interviews, 19 management staff from the targeted 5 institutions discussed their opinions on the aforementioned elements, which unquestionably pose challenges to the quality of teaching and learning in Pakistan's HEIs. Additionally, discussions (interviews) with representatives from several management departments were conducted in order to verify the statistics. The appendix contains a summary of the management personnel interviews.

Results & Discussions

The hypothesis in this study was checked and tested using Pearson Correlation. Pearson Correlation values range between 1 and -1. In other words, if value is greater than 0, the relationship is favourable; conversely, if value is less than 0, the relationship is unfavourable.

H1: Curriculum and educational quality are positively correlated. According to Table 1.4's findings, there is a positive link between curriculum quality and educational attainment because the correlation has a non-negative sign (.576). As a result, the researcher accepted the first hypothesis.

		Curriculum	QualityEducation
Curriculum	Pearson Correlation	1	.576
	Sig. (2-tailed)		.310
	N	5	5
QualityEducation	Pearson Correlation	.576	1
	Sig. (2-tailed)	.310	
	N	5	5

Table 1.4

H2: Less Training Institutions and the Quality of Education have a positive relationship. According to Table 1.5's findings, there is a positive link between less training institutions and higher educational standards because the correlation has a non-negative sign (.862). As a result, the researcher accepted the second hypothesis.

		LessTrainingInstitutions	QualityEducation
LessTrainingInstitutions	Pearson Correlation	1	.862
	Sig. (2-tailed)		.060
	N	5	5
QualityEducation	Pearson Correlation	.862	1
	Sig. (2-tailed)	.060	
	N	5	5

Table 1.5

H3: Corruption in education and educational quality have a positive relationship. According to Table 1.6's findings, there is a positive association between educational corruption and educational quality because the correlation has a non-negative sign (.405). As a result, the researcher accepted the third hypothesis.

		CorruptioninEducation	QualityEducation
CorruptioninEducation	Pearson Correlation	1	.405
	Sig. (2-tailed)		.499
	N	5	5
QualityEducation	Pearson Correlation	.405	1
	Sig. (2-tailed)	.499	
	N	5	5

Table 1.6

H4: The quality of education and the behaviour of the teachers are positively correlated. According to Table 1.7's findings, there is a positive association between teachers' behaviour and educational quality because the correlation has a non-negative sign (.644). As a result, the researcher accepted the fourth hypothesis.

Table 1.7

Correlations			
		TeacherBeha viour	QualityEducat ion
TeacherBehaviour	Pearson Correlation	1	.644
	Sig. (2-tailed)		.241
	N	5	5
QualityEducation	Pearson Correlation	.644	1
	Sig. (2-tailed)	.241	
	N	5	5

H5: The relationship between Less Research Work and Education Quality is favourable. According to Table 1.8's findings, there is a positive association between less research and higher academic standards because the correlation has a non-negative sign (.687). As a result, the researcher accepted the fifth hypothesis.

Correlations			
		LessResearc hWork	QualityEducat ion
LessResearchWork	Pearson Correlation	1	.687
	Sig. (2-tailed)		.200
	N	5	5
QualityEducation	Pearson Correlation	.687	1
	Sig. (2-tailed)	.200	
	N	5	5

Table 1.8

Conflicts over educational excellence at higher education institutions are directly related to educational quality. The curriculum, less training facilities, educational corruption, teacher behaviour, and less research activity are all key contributors to the decline in educational quality. The quality of education in Pakistan is deteriorating, particularly in the public sectors. This study highlighted a few conflicts that are directly related to educational quality. On the one hand, public colleges do not provide high-quality education, while on the other hand, private universities do. In this situation, the Federal Government and the Higher Education Commission are responsible for ensuring that the universities' quality standards are upheld.

Conclusion

This study highlights the fact that education makes people develop in all spheres of life, including sociological, moral, religious, constitutional, and productive ones. With the aid of a real intellectual framework, several nations are understanding a stewardship in the comity of nations. There is no question that Pakistan's excellent educational system is unable to adequately reveal its role in fostering community. This trait undoubtedly has raised the amount of discontent among Pakistani societies. As a result, the review's goal is to identify the conflicts over educational excellence that have been plaguing higher education institutions over the past few years. As a result, the Pakistani government has proclaimed that literacy is a must for all of the nation's citizens in an effort to seek into the solutions to these conflicts regarding improving the quality of learning. This will undoubtedly play a significant role in Pakistan's development.

Finally, the study comes to the conclusion that immediate action must be taken to improve the nation's literacy structure. For this reason, the study makes a series of recommendations.

Recommendation/ Suggestions

Research Question 2: Which of the following responses must be provided in order to improve the quality of teaching and learning in institutions (HEIs) in our nation?

Considering the research analysis and study's findings, the following recommendations will help higher education institutions foster learning excellence:

The curriculum will require annual evaluations. A thorough investigation should be carried out in particular to explore options about the presumptions and remarks of instructors, parents, and the

community. The curricular objectives need to be reevaluated taking into account the professional recommendations of the education researchers. Additionally, the curriculum committee must change the curriculum for all educational stages based on national education policy.

In light of the importance of education, the government should take decisive action to implement the policies rather than simply projecting them. For example, it should establish an educational task force to develop educational policies that may be suited for long-term plans in all institutions. Additionally, the government of Pakistan has to establish more training facilities in order to maintain and improve the quality of education there.

The culture of accountability needs to be strengthened, and all technical aspects of the educational system need to be upskilled so that people can accept their responsibilities both individually and collectively. This will aid in forming an impression of the structure and its operations.

Government must continue workshops and training programmes to raise understanding of instructors' attitudes toward students.

Academic institutions need to prosper with research knowledge. In order to enable all researchers to do high-quality research, each university should establish a solid framework with both creative and practical resources.

Financing for high-quality research and education must be prioritised, and its practical execution must be confirmed through stringent accountability measures.

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Skill and vocational educational in the socio-economic development of rural youth in India: An empirical Study

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Keywords

Vocational, Skill, Education, Training, Youth

Abstract

VET (Vocational Education and Training) is an essential part of the country's educational strategy. Both quantitative and qualitative research methodologies were used in this study. The present paper is a small attempt to describe and see the overall skill and vocational education system and its impact on rural youth in India using Quantitative as well as Qualitative Research techniques. A descriptive study approach was used to assess the thought process, degree of awareness, and perception of skill-based training among a chosen population. Because education is widely regarded as the most effective weapon for development, our government is attempting to educate almost all individuals, particularly those in rural regions, via a vast vocational Education initiative. The concept is that via education, unskilled employees will become skilled, peasants will be taught in new crops and will be able to adopt new agricultural practises and educated people will develop strategies for self-employment after learning new methods and skills.

Introduction

VETSD stands for Vocational Education, Training, and Skill Development. It includes a wide range of academic and non-academic activities, such as the study of technology and related fields of study, as well as the development of practical skills, knowledge, attitudes, and understanding that are useful in a wide range of jobs in society and the economy.

More precisely, vocational education, training, and skill development may be summed up as: a means of preparing for a career and becoming a productive member of society.

lifelong learning and preparation for responsible citizenship.

To promote environmentally sound and long-term sustainable growth.

Vocational education in India's Background

In India, "vocational education" refers to the officially supported "Vocationalisation of Secondary Education" programme, which offers vocational courses in grades 11 and 12. 1976-77 was when the Vocational Education Program (VEP) was launched to improve vocational training in public education institutions. It was recommended that the country's Vocational Education Program be expanded by the National Working Group on Vocationalization of Education (Kulandaiswamy Committee, 1985). Because of the CSS on Vocationalization of Secondary Education, which began implementation in 1988, its recommendations were put into action. Its goal is to "improve individual employability, eliminate the gap between the demand for and supply of trained labour, and provide an alternative for individuals pursuing higher education without special motivation or purpose." The Ministry of Human Resources Development oversees vocational education (MHRD). Vocational education in India is coordinated by the All-India Council for Vocational Education (AICVE), which is part of the Ministry of Human Resource Development (MHRD). State councils carry similar duties for vocational education (SCVE).

According to the most recent data, just 3% of students in grades 11 and 12 are currently enrolled in vocational education programs. In all four states (home to 95% of the country's population), according to PSSCIVE's statistics, vocational education has a total capacity of 846,100 seats. The institutions that received funds have a weighted average capacity utilisation of 42 per cent. As a result, around 3% of the 14 million people in the eleventh and twelfth grades are engaged in vocational training. Additionally, this would mean that fewer than 1% of kids who attended Grade 1 in the previous decade involved in some kind of vocational education programme.

A student's performance on the Grade 10 tests determines whether or not they will be placed in the vocational programme. Most states use state-level standardised tests in Grade 10 to funnel pupils into vocational education. Because students and their parents put such a high value on general secondary and higher education, it's reasonable to assume that those entering the vocational system would score lower on the Grade 10 test than those entering the available secondary and higher education systems.

Teachers' credentials are comparable to those of teachers in the regular high school system. Teachers who work full-time must have a master's degree, and their qualifications are typically identical to those of those who teach general education classes. In addition to full-time professors, schools may hire part-time instructors to teach speciality classes. Usually, these instructors are chosen because they know a lot about a particular subject.

The program's effectiveness should be assessed in the same terms as its justification in the job market. However, there are just a handful of assessments that enable this.

There seems to be little engagement from the private sector in operating the network. When deciding what courses should be taught and how they should be taught, the business sector has a voice in what is known as the Joint Council for Vocational Education.

India's Situation Regarding Vocational and Skill Education

National education initiatives include VET as a vital part of the process. To reap the benefits of India's demographic dividend, changing national contexts need to redefine the fundamental features of vocational education and training to make them more flexible, current, relevant, inclusive, and innovative. The government has already taken several critical measures in vocational education.

Our government, believing that education is the most effective development strategy, is attempting to educate almost everyone via a massive adult education programme, primarily those in rural regions. Unskilled employees will be trained, peasants will be taught new cropping practices, and educated people will develop strategies for self-employment after learning new methods and skills. As long as the concept of rural development via education has been around, no appropriate solution has ever been found. During the 1930s, Mahatma Gandhi proclaimed the importance of education and urged our people to spread the message of mass literacy across our nation. Primary education was his brainchild, and he envisioned it as a way to empower our rural youngsters to find work for themselves. Since the country's independence, the government and non-profit organisations have worked to improve literacy and education as a tool for national development, although little progress has been made.

Table 1: Literacy Rate in India (1951 to 2011)

Census year	% Literate (Total)	Male	Female	Male-Female Gap in literacy Rate
1951	18.33	27.16	8.86	18.30
1961	28.30	40.40	15.35	25.05
1971	34.45	45.96	21.98	23.98
1981	43.57	56.38	39.76	26.62
1991	52.21	64.13	39.29	24.84
2001	65.38	75.85	54.16	21.69
2011	74.04	82.14	65.46	16.68

The following table shows India's literacy rate's progress from 1951. While the rates for 1951, 1961, and 1971 are connected to the population in the five-year-plus category, those for 1981, 1991, and 2001 refer to the people in the seven-year-plus class. The overall literacy rate rose from 18.33% in 1951 to 65.38% in 2001,

with a male literacy rate of 75.85% and a female literacy rate of 54.163%. Between 1991 and 2001, the growth in the literacy rate was the largest ever at 13.17 percentage points. This decade has increased more female literacy than male literacy, at 14.87 per cent against 11.72 per cent. There has been a decline in the male-female literacy gap from 24.84 percentage points to 21.70 percentage points during the last twenty years. Over the decade ending in 2001, a more significant proportion of rural residents (14.7 per cent) became literate than urban residents (7.2%); urban literacy was 80.3%, while rural literacy was 59.54%. There has been a significant difference in male and female literacy rates since 2001.

Industrial and labour market dynamics show that vocational education in India should be strengthened. Through bivalent schools and SSC (vocational) vocational education at the secondary level, we may expand the vocational education foundation at the secondary level. Moving ahead requires a clear route for vocational students to access university programmes.

In India, the government plays a significant role in developing skills.

Only in the last few years has the government come to terms with the magnitude of the problem and taken steps to address it. By 2022, the government aims to teach 500 million individuals under Prime Minister Narendra Modi's National Skill Development Mission. It was also formed to expedite the identification and mapping of skills needs and enable private engagement in the sector via grants, gap financing, and other means.

NSDA: As part of the 12th Five-Year Plan, it controls and coordinates the activities of both the government and the private sector to meet the skilling objective.

'SSC' (Sector Skill Councils): SSCs are joint ventures between the public and private sectors (PPPs). With the SSCs, industry training standards are established and aid capacity growth. This will ensure that the training provided is consistent and that the skills learned are easily transferable.

The National Vocational Education Qualification Framework (NVEQF): The NVEQF, which was just announced, will be used by polytechnics, engineering schools, and other educational establishments all around the nation. After the seventh year, students will complete a seven-level certification programme in several vocational training subjects, culminating in a degree.

Secondary and Vocational Education Alignment: Through several entrance and departure points and flexibility in picking modules (of vocational education), this project, in combination with the NVEQF, gives more mobility to students. Since its inception, this programme has benefited around 1 million students at 9,619 different institutions.

The PPP model: PPPs were suggested to upgrade 1,396 Industrial Training Institutes (ITIs) by the Directorate General of Employment and Training in 2007-08.

The MES: The Modular Employable Scheme: The Ministry of Labor and Employment implemented it as part of its Skill Development Initiative (SDI). Prior knowledge of current employees is recognised and certified via MES.

NSAs: The National Skills Awards: The National Skills Development Authority (NSDA) the creation of NSAs, or Rashtriya Kaushal Puraskar (RKP).

The Prime Minister's Initiative: The NaMo government has unveiled another initiative in addition to "Digital India" and "Make in India." An updated version of past skill-building initiatives is being introduced here. The goal of this new initiative is 'Skill India', a new multi-skills programme. In March of 2015, it was introduced.

Skill's Influence

The Noble Social and Educational Society, Government of India, August 2013 has majorly concerted the history of JSS (Jan Shakti Sansthan), the role and operation of JSS in promoting skill development training courses for neo-literates, and the number of JSS in India. Self-employment and paid employment were the primary outcomes for most of the programme participants.

"Impact assessment study of socio-economic development programs – a Himachal Pradesh case study," The goal of the research was to gauge the qualitative progress made by the state's underprivileged and weaker citizens by analysing the results of numerous socio-economic programmes executed between the years 1996-1997 and 1998-1999. Two-thirds of families received some benefit from one or more of the programmes.

The JSS in Ahmadabad, Gujarat, was appraised by the State Resource Centre for Adult Education in Indore in 2004. Neo-literates, low-income clients, students who have dropped out of school, and those who work full-time are all included in the target audience. It was primarily directed toward disadvantaged girls and women. The average ratio of male to female involvement was found to be 30:70. The length of the courses offered by JSS, Ahmadabad, varies from 15 days to 10 months, depending on their focus. To accommodate the lowest socioeconomic strata of society, JSS offers vocational training programmes for which tuition is negotiable.

Global and local demand for Indian labour is expected to remain high and strong in the next few years, according to Chadha, G.K. (2004), "Human Capital Base of the Indian Labour Market, Identifying Worry Spots," *Indian Journal of Labour Economics*, 47(1), pages 3-38. The only problem is that doing so would require the use of highly trained and knowledgeable workers. In recent years, the aptitude of Indian youngsters has become a big worry. However, it isn't simply the amateurs and inexperienced that lack the necessary abilities; educated people routinely fall short of the mark. This study proposes a broad strategy to fill gaps and missing links in the context of Indian job seekers, labour market needs, and the employability index for high-growth industries. Due to an increased demand for technical and professional workers as well as a higher employability index, higher education's expansion has likely been distorted. As a result, we have more difficulty educating a more significant number of general education graduates to meet the changing skill requirements of employable young people.

The Vocational Education and Training System, World Bank Report, 2008, "Skill Development in India" Although India's economy is growing at a rapid speed, the government is having a tough time providing enough work for the majority of Indians so that they can both contribute to and profit from this development. As a result, education and training are needed to prepare them for the job market. The vocational education and training system is one method for preparing the skilled workforce. Despite this, the government recognises that current approaches are insufficient to satisfy the labour market's demands. The question of how to improve the system's efficacy via changes and interventions has become critical. These new realities have been a challenge for many countries, but few have been as difficult for our nation as it is.

Even though India's population growth rate has slowed in recent years, the workforce is expected to rise by around 2% annually or about 7 million people. There is still a sizable population segment and businesses firmly anchored in the old ways. Educational institutions have a critical role in preserving the country's traditions through cultural values, social norms, and political institutions. However, other factors must be altered if individuals are to escape poverty. Rural activities still employ more than half of the country's workforce. One-third of the population is still farming, despite a significant shift in the population. Nearly nine out of ten Indians are employed in the unorganised sector, where many do menial or low-wage jobs. Access to secondary education and vocational training (VET) is critical for this majority group, and for most of them, secondary education and VET will be their last formal education. It will be easier for these young people to transition from school to work if they can access higher-quality secondary and postsecondary education and vocational training.

According to the GoI (2009), National Policy on Skill Development, Ministry of Labor and Employment, Government of India, New Delhi, the NSQF should be viewed as a valuable tool among various policies, instruments, and actions than as a stand-alone policy. Sector-to-sector dialogue is just getting started, and everyone involved has much to gain from one another. It is expected that the National Policy on Skills Development will be updated so that TVET's future vision can be expressed consistently (India-EU Skills Development Project, 2015).

NVEQF State Ministerial Meeting, January 28, 2011 – According to an official report from the Ministry of Human Resources and Development (MHRD), there are two primary structural streams in India's skill acquisition: one small formal and one huge informal. According to the research, around 2.5 million seats are available for vocational training, whereas 12.8 million people enter the labour market each year, according to the study.

Kumar et al. (2008) have pointed out, that rural transformation is a growth booster that benefits the poorest members of society by creating more jobs outside the agricultural industry and relieving pressure on the industry as a whole. Rural poverty may be alleviated if the population strain on land is reduced and

efficiency and income levels are increased, thereby reducing the demand for land. When the non-farm activity is left over, it still serves the poor as a safety net and keeps poverty from worsening since it serves as an economic safety net. It's encouraging to see rural jobs slowly shifting to the city in recent years. Most pastoral human resources, however, are still restricted to small commerce or informal work. Rural labourers are still mostly unaware of the benefits of working in the non-farm sector, such as higher wages, regular hours, and more security. A person's level of education and experience, as well as their age, gender, and wealth, are all factors in determining what job they will be most suited for.

Education's role in societal and economic growth

Significant shifts have occurred in recent decades due to globalisation and an ageing population (Karmel and Maclean, 2007; Walker, 2009). Business strategies, financial markets, information technology, management techniques, and organisational working methods have advanced quickly. Demand for skills has never been greater. Keeping in mind that the education system should respond to the needs of the workforce required for the economic growth of the nation, Vocational education and training are highly valued by the Indian government. While elaborating on the nature and purpose of education, the National Policy on Education (NPE), 1986 (as updated in 1992), has acknowledged that education generates workers for various stages of the economy. The NPE also envisages the introduction of systematic, well-planned and rigorously implemented vocational education programmes, which can be strictly enforced to enhance employability, reduce the mismatch between demand and supply of skilled workforce and provide an alternative to those pursuing tertiary education without particular interest or purpose. The policy's goal is to offer general vocational training for high school students that applies to a wide range of professions and does not focus on one in particular.

Objective

The present work is a small attempt to analyse the impact of skill initiatives and vocational education undertaken by the Government of India and its impact on rural youth in India so far about increase the level of employment.

Methodology

A combination of quantitative and qualitative methods was used in this research project. A descriptive study has been used to examine how a particular group of people thinks about, feels about, and perceives skill-based training. A descriptive study collects data without altering the surrounding environment in any way. Descriptive research includes researchers' engagement with the participant and conducting surveys or interviews to acquire the essential information.

Primary Data

To acquire primary data, a survey is being done using a questionnaire. A survey is an excellent method for learning what many people think about a particular topic or how a group of people describe their behaviour. Questionnaire "Survey/Schedule" questionnaire surveys are used to acquire primary data in the study. Researchers have surveyed by giving out questionnaires to obtain needed information. A Customized Structured Questionnaire has been employed to extract the respondents' demographic status, current occupational level, and awareness of government skill programmes and skill-oriented training. Those who participated in different skill-based training programmes were also asked about their attitudes toward and engagement in this kind of training and their social and economic standing.

Secondary Data

Before using secondary data, it is necessary to analyse the data itself. Particularly severe attention should be given to terminology utilised, measurement inaccuracy, source bias, dependability and period. In this study, the help of census surveys of 2011 and prior years, together with different data accessible via government websites, has been employed in this research.

Target Population and Sampling

Size: 500 questionnaires have been delivered to the target demographic. 350 questionnaires have been completed fully out of 500.

Location: India

Respondents: Most youngsters are picked randomly without prejudice or any motive of convenience.

Sample size: A sample size of 500 was chosen at the beginning of this study. But only entirely completed questionnaires have been taken into consideration, which totals of 350.

Nominal Scale: In this investigation, a nominal scale was applied. From a statistical perspective, the lowest measurement scale is called the Nominal Scale.

The technique used: Descriptive statistics have been used in this study

Mean (the average value) and the frequency of something occurring (the percentage of responses that fall into a set of categories)

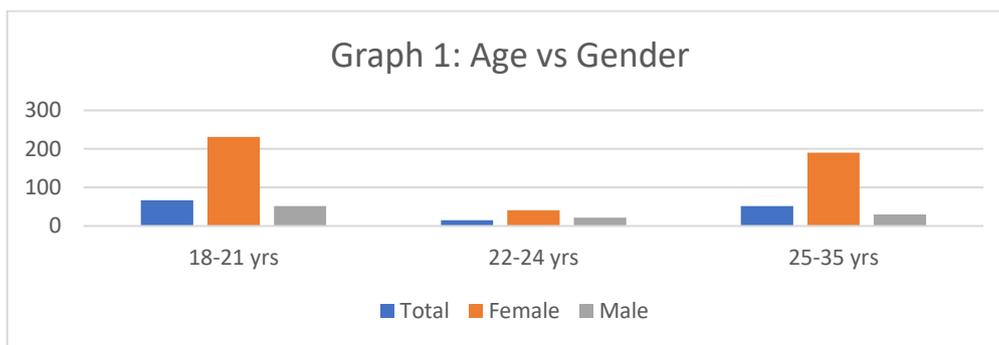
Cross-tabulations: Simple cross-tabulations are used in the analysis to compare the findings of two distinct groups of people. We need not stop at two types. We may reach as many groups as we wish.

Data Coding: Qualitative data were coded using a Likert scale in this study. SPSS and MS Excel have been used for both data coding as well as data transcription.

Analysis

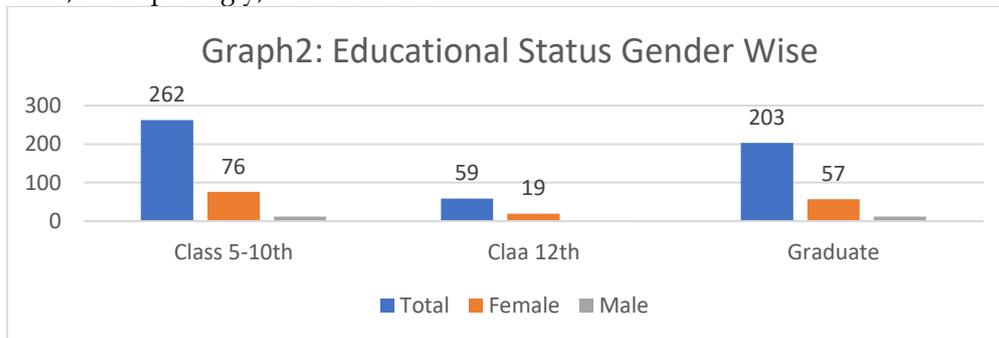
Age and Gender

Females mainly account for just 22.2% of the total sample, while males make 77.8% of it. The maximum youth of the target area belong to the range of 22-24 years of the age group, which is 66% of the total sample. This age group is dominated by males comprising 82% of the entire youth belonging to this age group. Other minor age groups are 18-21 and 25-35. Both of these age groups share a division of 19.14% and 14.85% respectively of the total sample.



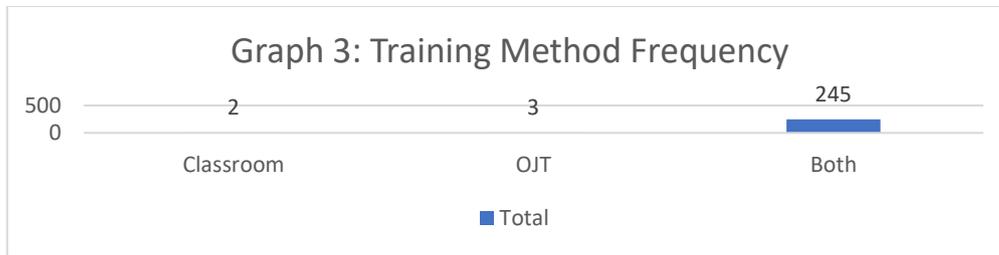
Educational Status

74.8% of the total sample responders are primarily educated. This group comprises most of the males, 203 out of the total 262 in this group. 21.7% of the total responders have an education level up to the 12th standard, mainly consisting of males (57 out of 76). A very small number of the total sample is graduate or equivalent level; unsurprisingly, all 12 are males.

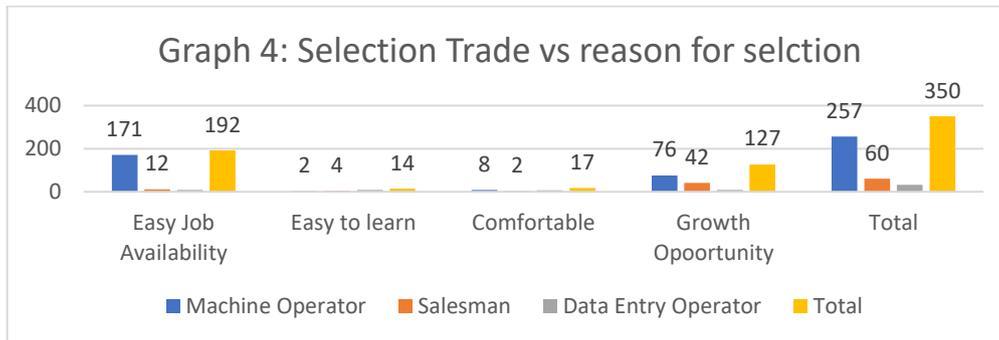


Skilled Work Analysis

The machine operator has emerged as the choice for the majority of respondents. 257 out of the 350 have selected this trade. The main reason for this trade selection was easy availability of related jobs accounting for 192 respondents out of the total sample. Another main reason driving this selection was the potential growth opportunities related to the jobs in the machine operator field, as stated by 127 respondents out of the sample. The training mode for all the respondents was classroom and OJT types.

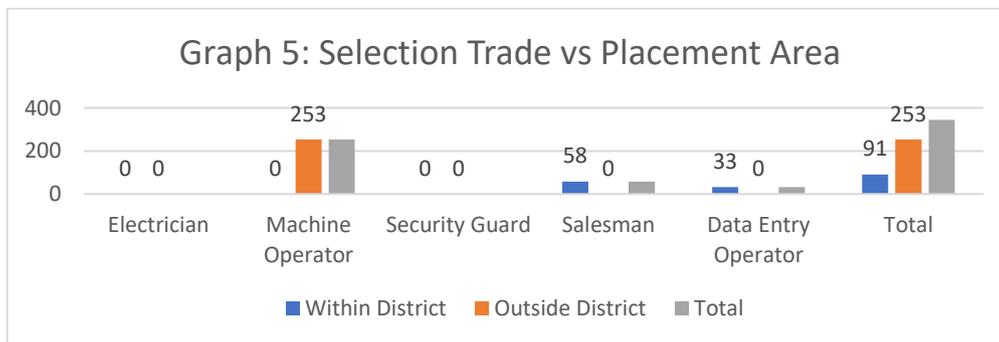


Trade Selection Vs reasons for Trade selection



Trade selection was driven mainly by the reasons like easy job availability and growth opportunity. Among the 257 respondents who selected Machine operators as trade, 171 sought easy job availability while 76 sought growth opportunities in this trade. Of the 60 respondents who opted for salesman trade, 42 stated growth opportunity as the reason for such selection. However, 33 respondents' selection Data Entry Operator had mixed reasons. In other words, easy job availability was the main reason behind trade selection for 192 respondents, followed by growth opportunity for 127.

Trade Vs placement



Those 253 who had selected Machine Operator trade were placed outside their district. Similarly, all 58 respondents who had opted for salesman got placed within their district. While all the 33 data entry operators were placed within their districts.

Inferential Analysis

Salary/ Remuneration * Savings per Month Cross tabulation

Further, to justify the impact of salary per month, chi-square test has been applied. The result of the test indicates that the salary received by the trainee produces a significant effect over the monthly savings. Though it is obvious that earnings lead to savings, the present analysis reveals the fact that the trainees who received skill training are capable enough to get a job and therefore save that gradually brings up financial stability for them.

Table 2: Salary/ Remuneration * Savings per Month Cross tabulation

	Savings per Month

		500-700	750-1000	1000-1250	1500 and Above	Total	
Remuneration	3000-5000	Count	12	18	3	0	33
		% Within Salary/Remuneration	36.4%	54.5%	9.1%	0.0%	100.0%
		% Within Savings per Month	4.6%	29.0%	42.9%	0.0%	9.4%
		% Of Total	3.4%	5.1%	0.9%	0.0%	9.4%
Salary/ and Above	5000 and Above	Count	249	44	4	20	317
		% Within Salary/Remuneration	78.5%	13.9%	1.3%	6.3%	100.0%
		% Within Savings per Month	95.4%	71.0%	57.1%	100.0%	90.6%
		% Of Total	71.1%	12.6%	1.1%	5.7%	90.6%
Total		Count	261	62	7	20	350
		% Within Salary/Remuneration	74.6%	17.7%	2.0%	5.7%	100.0%
		% Within Savings per Month	100.0%	100.0%	100.0%	100.0%	100.0%
		% Of Total	74.6%	17.7%	2.0%	5.7%	100.0%

Table 3: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	46.276 ^a	3	.000
Likelihood Ratio	37.026	3	.000
N of Valid Cases	350		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is .66.

Salary/ Remuneration * Placement Area Cross tabulation

Table below reveals the level of salary with reference to placement within and outside district. The results of chi square state that area of placement is having a significant effect on the quantum of salary. The salary received outside of the district is way more than within the district.

Table 4: Salary/ Remuneration * Placement Area Cross tabulation

		Placement Area			Total
			Within District	Outside District	
3000-5000	Count	0	33	0	33
	% Within Salary/ Remuneration	0.0%	100.0%	0.0%	100.0%
	% Within Placement Area	0.0%	36.3%	0.0%	9.4%
	% Of Total	0.0%	9.4%	0.0%	9.4%
5000 and Above	Count	6	58	253	317
	% Within Salary/ Remuneration	1.9%	18.3%	79.8%	100.0%
	% Within Placement Area	100.0%	63.7%	100.0%	90.6%
	% Of Total	1.7%	16.6%	72.3%	90.6%
Total	Count	6	91	253	350
	% Within Salary/ Remuneration	1.7%	26.0%	72.3%	100.0%
	% Within Placement Area	100.0%	100.0%	100.0%	100.0%
	% Of Total	1.7%	26.0%	72.3%	100.0%

Table 5: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	103.701 ^a	3	.000
Likelihood Ratio	99.444	3	.000

N of Valid Cases	350		
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The sample reveals the interest towards skill training and also selected certain trades on the certain bases. Statistical analysis has revealed that so far training has developed a core understanding of the skills and has thus provided employment to the training.

Conclusion

The study was carried out to signify the effects produced so far, by the vocational training on the employability level of youth. The focus was also on seeing the profound effect on the overall socioeconomic conditions of the selected sample that were produced by training related to certain skills.

The sphere of vocational education has developed its own ecosystem of public-private funded training programmes for the needful candidates. The whole cycle of centre setup-mobilizations-training-certification-placement has brought a productive change in the rollout figures and especially in the quality of the skilled individuals.

The Indian state governments are running parallel skill development missions and are incorporating training per standard norms defined by the central agency for implementing vocational education programmes.

Suggestions to Improve the Skill:

Skill development is a complex initiative for the providers as well as the takers. Skill sets vary with the educational qualification, aptitude, and attitude of the person undertaking or who wants to possess the skill. In the process of imparting/transferring the skill these aspects are often overlooked and misunderstood by both the providers as well as the receiver. The resultant effect is that skills are not transferred as desired and the quality of the final product (the person trained in a particular skill) doesn't yield the expected benefits. It is therefore suggested that before start of any skill development initiative a through and serious homework to be carried out as follows:

Selection of the beneficiaries: Before the start of any skill development initiative/training programme the following work has to be carried out:-

Detailed survey of the beneficiary; their family background- Occupation, monthly income of the family, saving pattern if any, family members, education level in the family, school dropouts, reason for dropouts etc. Once this is done the beneficiaries can be separated and then a brief counselling session to be carried out with the beneficiary as well as the parents. The beneficiary to be probed on their need for skill training, area of their interest, the non-availability of job in their own village may be required to migrate to another town or city. They may be counselled on initial teething problems of staying away from home & family, the various hardships, struggle they may have to undergo at workplace, savings, career growth etc.

The role of the service provider/the skill imparting agency: Is the identification & selection of the right proper beneficiary. Plan the skill training as per the interest of the beneficiary and as per the market demand. Impart training as per the level of the identified beneficiary, not as per the pre-designed course content. Changes are to be incorporated into the training methodology, time duration etc.

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Remittances flow to India and its impact on growth over three decades since 1991

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Keywords

ECM, ECT, Growth, Remittances, Unit root tests, VECM

Abstract

In many developing countries, remittance payments from migrant workers are observed as an increasing magnitude and becoming a significant source of foreign reserve earnings. Remittances inflow is noted to be very useful in promoting household welfare, health, and education particularly in developing countries. Inflows of remittances to India have experienced a sharp rise in last three decades. Remittances have also emerged as a more important and stable source of foreign exchange inflow compared to official development assistance, foreign direct investment or other types of capital flows in particular in developing countries. Among countries today, the top recipient countries are India with \$79 billion, followed by China (\$67 billion), Mexico (\$36 billion), the Philippines (\$34 billion), and Egypt (\$29 billion) (World Bank 2019). Available evidences indicate that migrant labour flows from India since 1990s have not only registered impressive growth, in respect of the traditional destinations like United States of America (USA), United Kingdom (UK), Canada and the Gulf countries but also have diversified and expanded to newly emerging migrant destinations in continental Europe (Germany, France, Belgium), Australasia (Australia, New Zealand), East Asia (Japan) and South-East Asia (Singapore, Malaysia). In this study we have concentrated on the long-run relationship between remittances inflow and the economic growth of India considering annual data over the period 1975-2016. In this purpose we have used VAR (The vector auto regression) model for estimating the significance relationship and the direction of the relationship.

Introduction

Before going into the discussion of remittances, we have to know about the interplay of migration in international context. There are two dominant patterns of migration during the long 19th century: first, from Europe to the Americas; and second, the movement of people within the periphery, particularly Indians and Chinese to South-East Asia, Africa, the Pacific and the Caribbean. There was some movement from the periphery to the Americas, such as Chinese settlements in the US, Hawaii, Canada, Peru and Cuba. Many of these movements were restricted through anti-immigration legislations. There was little migration from the periphery to Europe. The major reversal in mass migration, with periphery to core becoming its dominant direction, took place in the post-war period. In part, the reversal immigration flows arose because of the need for peripheral labour in core states.

International migration is motivated by differences that are likely to increase in the twenty-first century. Persisting demographic and economic inequalities between countries give people reasons to migrate, while revolutions in communications and transportation allow people in poorer countries to learn about opportunities in richer countries and move to take advantage of them (Martin and Zuercher 2008). There is also a more mechanical reason for more international migration – more borders to cross.

I.I Remittances: Are they Shortcut for Development?

Most migrants remit some of their foreign earnings to family and friends at home. During the 1990s, when remittances to developing countries doubled, sending-country governments and development institutions became aware of rising remittances, which often provided the foreign exchange essential to cover balance-of-payments deficits and sustain economic development policies (Ratha 2003). Leaders of major labour sending countries began to acknowledge the importance of remittances by symbolically welcoming home some returning migrants at Christmas each year, as in the Philippines, or calling migrants “foreign exchange heroes,” as with former Mexican President Vicente Fox.

Remittances pose several migration and development challenges. Many national governments as well as international organizations such as the World Bank want to increase remittances, which can be accomplished by sending more workers over national borders and ensuring that they earn, save, and remit. Governments and international organizations want to reduce the costs of sending money via formal channels, which should reduce the use of informal channels for remittances and minimize the opportunity for terrorists to use such channels.

Most migrants are from developing countries, and 75 percent of global remittances went to developing countries – the \$240 billion received by developing countries in 2007 was almost triple the \$86 billion they received in 2000. Most reasons go in favour of rapidly rising remittances, including better, or more or less prudent reporting after the September 11, 2001, terrorist attacks; lower costs to remit via banks (which are more likely to report remittances); and dollar, which at best raises the dollar value of remittances transferred in other currencies. Another well-known factor increasing formal remittances is the expansion and spread of banks from migrant countries of origin to migrant destinations, where they offer services in the migrant’s language, also as ancillary services to migrant relatives at home.

The major migration and development challenge tackled over the past decade has been to reduce the cost of sending small sums over borders via regulated financial institutions. There are altogether three steps that is associated and involved in a typical remittance transfer in the fact that the migrant pays the remittance to a money transfer firm such as Western Union in one country; the money transfer firm instructs its agent in another country to deliver the remittance, and last of all the agent pays the recipient.

However, in a more logical way, there are mainly three steps in remittances called first *mile*, the *intermediary stage*, and the *last mile*, and they involve three major costs. First is the fee paid by the sender, typically \$10 to \$30 to send the usual \$200 remittances. Second is the exchange rate difference, as when dollars are converted to pesos at a rate less favourable than the interbank exchange rate. Third are fees that may be charged to recipients when they collect their funds (in many cases, remittance pick-up points are located in stores or other outlets that encourage recipients to spend some of the money received). There may also be an interest rate float if there is a time lag between paying and receiving remittances.

The second remittance-related migration and development challenge is to ensure that the spending of remittances accelerates development in migrant-sending areas. Most studies suggest that each \$1 in remittances generates a \$2 increase in economic activity, as the spending of remittances on housing, education, and health care creates jobs (Taylor and Martin 2001). Most remittances are spent on daily needs, as would be expected because foreign earnings replace money that would have been earned locally. However, remittances often exceed what would have been earned at home, and after basic consumption needs are satisfied, remaining remittances are often used to build or improve housing, educate and provide health care to children, and expand or launch new businesses or to venture forth in entrepreneurial activities.

Remittances can speed up development if macroeconomic fundamentals are correct. Sound economic policies give all residents, migrants and non-migrants, incentives to save and invest (World Bank 2006). One policy question usually crops up in this context whether governments should have special policies to encourage migrants to send remittances, such as matching remittances that are contributed to develop migrant areas of origin.

The best way so far for a migrant-sending country to maximize remittances and their impacts on development is to have the economic fundamentals correct, which actually means having an economy that is growing, an appropriate exchange rate, and a climate that fosters small investments. Migrants can sometimes have other impacts that speed development, as when they steer investments to their countries

of origin and persuade their (foreign) employers to buy products from their countries of origin. Migration increases travel and tourism between countries, as well as trade in ethnic foods and goods that migrants became familiar with while abroad.

In the migration and development equation returns can be best understood as third R, as the migrants who have been abroad can return with new energy, ideas, and entrepreneurial vigour that accelerate development in their countries of origin. Migrants are generally drawn from the ranks of the risk takers, and a combination of their remittance savings and skills acquired abroad can speed development, as in happened in case of southern Europe and Korea. On the other hand, if migrants somehow settle abroad and cut all their ties to their countries or origin, or if they return only to rest and retire, obviously there may be few development-accelerating impacts of migrant returns, as in many Pacific and Caribbean islands. . Also, the possibility of back-and-forth circulation cannot be ignored. This can under some conditions contribute to economic growth in both countries. Thus, the major migration and development channels are recruitment, remittances, and returns. Each of these three migration Rs sometimes operate in ways that speed up economic development. The 3 Rs can create virtuous circles that speed development, as with Indian IT.

A desirable outcome is migrant-led development, meaning that migrants accelerate development upon their return. Taiwan provides an example. Government policy encouraged out-migration during the 1960s and 1970s and return migration in the 1980s and 1990s. During the 1960s and 1970s, most government educational spending was for primary and secondary education, so Taiwanese often went abroad for university education, and over 90 percent of Taiwanese graduates remained overseas. When Taiwan's economy began to grow rapidly in the late 1970s, the government established the Hsinchu Science-Based Industrial Park to encourage Taiwanese abroad to return by offering financial incentives and subsidized Western-style housing (Luo and Wang 2002). Hsinchu, begun in 1980, became a major success by 2000, when over 100,000 workers were employed by 300 companies, half headed by returned migrants. Many local governments in China have followed a similar strategy of subsidizing the return of migrants to speed economic development. For example, Shanghai reportedly had 30,000 returned professionals in 2002, 90 percent of whom had MS or PhD degrees earned abroad (Kaufman 2003).

Rising interest in migration and development has prompted more governments to recognize that migrants abroad may be a key to development at home. Many migrant-sending governments have enacted legislation that permits or encourages dual nationality or dual citizenship in an effort to maintain links to citizens abroad. Some researchers believe that, in a globalizing world, dual nationality can be the keystone for "a Diaspora model [of development], which integrates past and present citizens into a web of rights and obligations in the extended community defined with the home country as the centre" (Bhagwati 2003).

Economic theory teaches us that inequalities between nation-states can be reduced as workers cross borders to fill jobs or as jobs move to workers via freer trade and investment. This means that migration and trade can be substitute policies to accelerate economic convergence.

So far so is the dynamics of migration and its relationship with the remittances. We may enter now with the details of remittances. Remittances are defined at best as the monies transmitted from one place to another. Although remittances can also be sent in-kind, the term "remittances" usually refers to cash transfers. Migrant workers' remittances are the part of total remittance flows that is transmitted by migrant workers, usually to their families or friends back home. The World Bank forcefully articulates that remittances play a vital role in the growth and development of the developing countries as they are an important and stable source of income for households. (WorldBank 2006). Analytical studies have already shown that the flow of remittances is the least influenced by economic downturn and remains a stable source of income.

II. Flow of Remittances to India

Inflows of remittances to India have experienced a sharp rise in recent years. Remittances have also emerged as a more important and stable source of foreign exchange inflow compared to official development assistance, foreign direct investment or other types of capital flows in particular in developing countries. Remittances have some comparative advantages as they do not create any future repayment obligation and liabilities. Moreover, remittances come to the households as private aid to care about the wellbeing of the family back home of the migrants' members.

Among countries today, the top recipient countries are India with \$79 billion, followed by China (\$67 billion), Mexico (\$36 billion), the Philippines (\$34 billion), and Egypt (\$29 billion) (*World Bank 2019*). India, with a vast reservoir of both highly skilled and semi-skilled and unskilled labour force, is a major contributor to the contemporary global labour flows. Available evidence indicates that migrant labour flows from India since 1990s have not only registered impressive growth, in respect of the traditional destinations like United States of America (USA), United Kingdom (UK), Canada and the Gulf countries but also have diversified and expanded to newly emerging migrant destinations in continental Europe (Germany, France, Belgium), Australasia (Australia, New Zealand), East Asia (Japan) and South-East Asia (Singapore, Malaysia). Consequently, the proportion of Indian migrants in total immigration inflows in the major receiving countries has registered considerable increase in recent years. The most beneficial impact of the increasing number of migrants from India is the growing magnitude of remittances inflow, which is now far in excess of the external sector aid and foreign investment flows and a major factor accounting for the improvements in India's Balance of Payments. The inflows come from an Indian Diaspora estimated at around 25 million spread across nearly 130 countries and are both quite stable and rapidly growing with the flows all set to diversify further in the years to come (Ratha 2009).

India is the highest remittance receiving country in the world. With an increasing number of Non-Resident Indians (NRIs) living overseas, either for work or having settled there, flows into the country have certainly grown dramatically in the past few decades. The magnitude of the remittances can be judged by the fact that they sometimes exceed far over the foreign direct investment (Table 1).

Table 1: Remittances as a share of GDP

Years	Remittances Inflow (Rs Billion)	Remittances as a percentage of GDP	Net FDI Inflow as a percentage of GDP
1975-76	3.614494	0.416862998	-0.010628169
1976-77	5.7880931	0.619564246	-0.007604007
1977-78	8.1929375	0.77402856	-0.030083406
1978-79	9.5356413	0.831739278	0.01335363
1979-80	11.7393947	0.933706201	0.032176041
1980-81	21.75668	1.453915345	0.043059214
1981-82	20.0103652	1.138213657	0.048148456
1982-83	24.8890728	1.665691951	0.036397108
1983-84	26.9870898	1.178367477	0.002618983
1984-85	26.0675119	1.015837665	0.00919131
1985-86	30.563808	1.055657148	0.046244655
1986-87	28.2736879	0.872782071	0.047923052
1987-88	34.4996976	0.936954561	0.077119938
1988-89	32.2403599	0.73794636	0.031182439
1989-90	42.344118	0.843629325	0.086308037
1990-91	41.6830944	0.711058361	0.074736972
1991-92	74.737566	1.109071653	0.027593624
1992-93	75.0660576	0.969163284	0.097238944
1993-94	110.9093366	1.244277943	0.199720325
1994-95	183.695941	1.756863981	0.301406511
1995-96	201.8019968	1.645046745	0.603030361

1996-97	310.4678322	2.187506964	0.625827257
1997-98	375.3267464	2.38697646	0.871838424
1998-99	391.0939929	2.168674526	0.633739715
1999-00	478.785417	2.366557844	0.479034915
2000-01	577.2555845	2.651107459	0.77555818
2001-02	671.4053253	2.849955431	1.070660341
2002-03	763.3492051	3.009663995	1.025248066
2003-04	978.9186285	3.445073359	0.614080764
2004-05	849.8203245	2.621115186	0.775952192
2005-06	975.7125	2.641795336	0.898676912
2006-07	1283.728538	2.989095268	2.176329406
2007-08	1538.867125	3.08570153	2.100365807
2008-09	2174.244387	3.861847349	3.656950691
2009-10	2381.7147	3.676718597	2.687536065
2010-11	2445.437176	3.141573803	1.653785022
2011-12	2916.972078	3.237582777	2.002065552
2012-13	3677.62907	3.636435168	1.312934337
2013-14	4100.088066	3.610798509	1.516275965
2014-15	4295.805476	3.414846991	1.698769519
2015-16	4420.707429	3.196443895	2.105852937
2016-17	4218.117762	2.748317088	1.96389782

Source: World Bank Data 2017

India has received immigrant remittances in excess of 1% of its gross domestic product for many years. For example, as far back as 1982, remittances by Indians working overseas were estimated to be equal to 1.6% of Indian GDP. Total remittances by overseas Indians were reported to have reached \$8 billion by 2000, about 2% of Indian GDP. By 2006, they were double that amount (Table: 1.1).

II.I. Remittances Flow to India : A Historical Perspective

The trends in remittances during the 1970s and 1980s are outlined in Table 2, which confirm the sharp rise in remittances beginning in the mid-1970s. Data on remittances before 1970s are not available. Table 2 show the growing significance of remittances as a mean of financing the balance of payments (BoP) deficits in India.

Table: 2: Remittances Flow to India during 1970 to 1990

Years	Net private transfer Remittances (Rscore)
1970-71 to 1973-74	169.9
1974-75	279.9
1975-76	541.2
1976-77	745.6
1977-78	1029.3
1978-79	1059.3
1979-80	1412.7
1980-81	1840.8

1981-82	2507.7
1982-83	4037
1983-84	3733.9
1984-85	4429.6
1985-86	1935.9
1986-87	1918.3
1987-88	3498.4
1988-89	3841.6
1989-90	3797.7

Source: Karmakar(2010)

That there are several macroeconomic factors underlying the increase in remittances flow might be attributed to the following factors:

(i) The real gains to India on a large scale from OPEC countries came through the direct export of labour which increase at a phenomenal pace throughout the late 1970s and reached their peak level in the early 1980s and it continued in the late 1980s. The economic boom in the Middle Eastern economies, particularly the Middle East, which followed the increase in oil prices, led to a massive temporary emigration of large number of Indian workers—both skilled and unskilled as simply labourers, skilled technicians, nurses, office assistance, etc. to the Gulf Countries. This export of labour was a principal source of foreign exchange earnings for India from oil rich Gulf Countries. These workers kept sending their net earnings back home. Consequently, transfer payments to India on private account moved up from on an average annual flow of Rs 49.9 crore during the Third Plan period to Rs 917.3 crore in 1977-78 and Rs 4037 crore in 1982-83. This phenomenal rise is essentially due to the remittances from the migrant workers in the Middle East. But in late 1980s the data are quite fluctuating. There was a sharp decline in remittances flow to India in the year 1985-86 to the year 1986-87. It became Rs 1918.3 crore in the year 1986-87. After that there was a sharp rise from the year 1987-88 till the year 1989-198 (Karmakar, 2010:164).

(ii) Besides, there was a steady effective value of the rupee vis-à-vis the SDR basket of currencies, until 1975 and the US Dollars, until 1976. This depreciation of the rupee, in conjunction with the exchange control regime, seemed to have directed a very large proportion of inflows of remittances through official channels.

(iii) In addition to the earnings from the direct export of labour and to that of earnings of reserves from the fall in the external value of the rupee, there was another reason behind the improvements in the balance of payments position in the 1970s. Following the crisis in the international monetary system during the early 1970s, the international market price of gold shot up dramatically in the mid-1970s. There was even periods when the domestic price of gold (at the official exchange rate) was lower than the international price. As is well known, the enormous financial attraction of moving gold illegally into India has been an important basis for the substantial smuggling activities across the Indian borders. Hence after a long time, elimination of the large price-gap between the international price of gold and the domestic price of gold in India, led to a significant dampening influence on the smugglers' trade and their demand for foreign exchange, resulting in a better showing in the receipts and payments statistics of the Reserve Bank of India. At the same time, there emerged the disparity in price between the price of silver in India and the world price of silver. Latten on elimination of the large price-gap between the international price of silver and the domestic price of silver in India, also led once again in the fall of smugglers' demand for foreign exchange.

The policy that made simplification of banking procedures for remittances, an extension of banking services overseas and most importantly, liberalization of foreign exchange regulations for NRIs on the one hand, and government's extensive use of Conservation of Foreign Exchange and Prevention of Smuggling Act(COFEPOSA) and Maintenance of Internal Security Act(MISA) against smugglers during the period of

Internal Emergency between 1975 and 1976, enhanced the inflow of remittances through official channels. All these factors if we take together have resulted in for the first time a net surplus in the current account of India's balance of payments. The net surplus was Rs. 1525.8 crore in 1976-77 and Rs. 1734.7 crore in 1977-79. That is the main reason for which the decade 1970s is hailed as the golden year in India's balance of payments.

Objective of the Study

India is the highest remittance receiving country in the world (World Bank 2019) with an increasing number of migrants living overseas. The inflow of remittances into the country has certainly grown dramatically in the past few years. Now it is an important matter to identify the significance of the economic impacts of remittances inflow on the Indian economy. Thus, the study focuses on the impacts of remittances on the potential macroeconomic variable like Growth of the Indian economy and it will assist the policymakers of India in the development of policies to have the maximum benefits of these inflows. So, our objective is to estimate the impact of international remittances inflows on economic growth in India.

Hypotheses:

- H₀: There is no significant relationship between remittances inflows and economic growth in India.
H₁: There is significant relationship between remittances inflows and economic growth in India.

Theoretical Background on Remittances and Economic Growth

In the post-1945 period there have been three waves of interest in growth theory. The first wave focused on the neo- Keynesian work of Harrod (1939) and Domar (1946) emphasizing the role of savings in the growth of output in an economy. In the mid-1950s the development of the neoclassical growth model by Solow (1956) and Swan (1956) stimulated a second more lasting and substantial wave of interest, which after a period of relative neglect between 1970 and 1986, has been reignited. The third wave, initiated by the research of Paul Romer (1986), Robert Lucas (1988), Sergio Rebelo (1991) and Ortigueira and Santos (1997), led to the development of endogenous growth theory, which emerged in response to theoretical and empirical deficiencies in the neoclassical model. The Endogenous Growth Model considered mainly two factors: Human capital (increase in labour quantity and quality) and Physical capital in process of economic growth. The model assumes that human capital has no depreciation and it holds that investment in human capital, innovation, and knowledge are significant contributors to economic growth. The theory also focuses on positive externalities and spillover effects of a knowledge-based economy which will lead to economic growth and development. These works inspired the development of a 'new' breed of endogenous growth models and generated renewed interest in empirical and theoretical questions relating to long-run development.

In this above context of endogenous growth models, the inflow of remittances may lead to increase factor productivity by increasing human capital such as through improved health and access to education. According to Altruistic Theory it is believed that the migrant remit to his family as a result of his love and affection for his family members and hence to smooth the consumption of the family back home. So, this flow of money can be used by migrant household for education of the children and to have better medical facility.

Another theoretical transmission channel can be expected through the financial development of the domestic economy that would speed up remittances inflow to be translated into economic growth. The greater the width and depth of financial development, the more it creates positive externalities to the impact of remittances inflow on growth process. First, remittances inflow would be channelized towards productive investment, rather than conspicuous consumption, if the financial sector was ready to absorb the funds sent by migrant worker's home. Instead of 'wasting' the extra income received by recipients in developing countries, they would be incentivized by financial institutions offering higher returns. Second, recipients of foreign income would access financial institutions simply to collect their revenue streams but, in the process, they could demand other financial services as their knowledge and trust increase. Third, banks will be able to resolve their asymmetric information problems (between customers and banks) by increasing the knowledge of new customers who have access to foreign incomes sent by relatives and friends working abroad. Fourth, banks will be able to increase their overall lending based on new deposits

created via remittance and these financial multipliers will increase the supply of loanable funds to the rest of the economy. Fifth, remittances are often lumpy, and recipients might wish to utilize 'financial products that allow for the safe storage of these funds' (Aggarwal, Demirgüç-Kunt and Peria, 2006.); this allows for the growth of new and innovative financial products even when the original remittances were not received through normal commercial channels. Sixth, the risks associated with such transfers via the curb market (common to many poor developing countries and regions) is eliminated with higher quality of financial services accessible to senders and recipients alike. This could potentially increase the total supply of such transfers.

Although the above theoretical knowledge indulges the concept that remittance inflow has a positive impact on economic growth but some alternative view which postulate that remittances inflow may cause the economic growth negatively.

Supporting this above argument, it is argued that remittances inflows may also influence economic growth through their effects on the rate of growth of labour inputs (while holding the level of human capital fixed). One channel through which remittances could impact labour inputs is through labor force participation in the domestic economy. Remittances inflow would be expected to have a negative effect on labor force participation, for the following reasons. Firstly, the remittances inflows are simple income transfers from migrants to their households, recipient households may rationally substitute these unearned, nonobligatory (no liabilities for future repayment) remittance income for their labor income. In addition to that, regardless of their intended use, remittances inflow may raise the issue of moral hazard problems, this idea that was first introduced by Chami, Fullenkamp, and Jahjah (2005). Because this type of transfer occurs under asymmetric information and so it is difficult to monitor and enforce by the distance separating remitter and recipient, moral hazard problems may induce recipients to divert resources to the consumption of leisure, thereby reducing their labor market effort.

In another way it can be theoretically justified that remittances inflow for the purpose of investment can be procyclical, but it can fuel up the real effective exchange rate (REER) to appreciate further which in turn affects inversely the international competitiveness. As a result, it causes to contract the export sector of domestic country and indirect affects economic growth negatively.

IV.I. Empirical Literature on Remittances and Economic Growth

Remittance flow has grown faster over past three decades most of which has flowed to developing economics. Similarly, there are a growing number of theoretical and empirical studies which were endeavored to investigate whether remittances inflow positively affects economic growth process or not and the studies have also provided evidence of the possible transmission channels. Existing literatures provides mixed results. A group of studies suggest a positive effect of remittances inflow on economic growth through higher consumption, savings, and investment. For example, Aggarwal, Demirgüç-Kunt and Peria (2006), assuming the hypothesis that financial development; enhances economic growth and find that remittance inflow promotes financial sector development in developing countries. Similarly, Catrinescu, Leon-Ledesma, Piracha, and Quillin (2006) reject the existence of negative effect of remittance inflow on long-run economic growth. However, Rao and Hassan (2011) speak different with that remittance has no direct effect but small indirect effect on economic growth.

There are also groups identified as groups called: Second groups. They find a negative impact of workers' remittance on economic growth. These studies follow suit with the happening of Dutch Disease thus indicating that remittances inflow appreciates real exchange rate and reduces international competitiveness. It also reduces workers' participation in the labour market (Majumder & Karmakar, 2015). Lopez, Molina, and Bussolo (2007) and Chowdhury and Rabbi (2014), for instance, suggest that remittance inflow significantly appreciates real exchange rate of recipient country, which ultimately reduces international competitiveness in the export sector. Chami, Fullenkamp and Jahjah (2005) also in their model indicate that remittance is actually a non-profit driven compensatory private transfer and therefore has a negative correlation with economic growth. Barajas, Chami, Fullenkamp, Gapen, and Montiel (2009) suggest that even if remittance has an enormous effect on poverty eradication, at present and the years to come combined with consumption smoothing positive effect, it does not significantly affect economic growth.

Third branch of literatures estimate the relationship between remittance inflow and financial development. Aggarwal, Demirgüç-Kunt and Pería (2006) find a positive association between remittance flow and financial development. Chowdhury, Mamta and Fazle (2014) suggest that there is a positive relationship between remittance inflow and financial development; however, the reverse causation is absent in Bangladesh data.

There is yet fourth group of research which examines the role of remittances inflow in investment, productivity, employment, and import. For instance, Lucas (2005) and Glytsos (2002) show that remittance inflow accelerates investment. Leon-Ledesma and Piracha (2004) show that remittances increase productivity and employment through investment. Roberts and Banaian (2004) shows that average propensity to save from remittance is 40 percent. Glytsos (2002) states that inflow of remittances acts as a source of financing for imports and decrease the balance of payments deficit in LDCs. On the contrary, Russell (1986) indicates that remittance increases imports and widen balance of payments deficit.

A further group of research estimates impact of workers' remittance on economic growth through institutional development. Catrinescu, Leon-Ledesma, Piracha, and Quillin (2006) suggest that a sound institutional environment enhance efficiency of investment leading to higher output. Using the data set used by Richard H Adams Jr and John Page (2005) on international migration, remittances etc., Paulo Giuliano and Marta Ruiz-Arranz (2009) determine the relationship between remittances and growth, given their importance in total international flows. Covering over 100 developing countries, they found that remittances augmented growth in countries with less developed financial systems and that remittances inflow positively affect economic growth, however. On the contrary, Ahamada and Coulibaly (2011) find that although the effect of financial development varies country to country, a high level of financial development helps remittances to have a high stabilizing effect on GDP growth. The IMF occasional paper, by Chami, Barajas et al. (2008) in a detailed study of countries that receive hefty amount remittances addresses two questions: how to manage their macroeconomic effects and how to harness their development potential. So, it is clear that there is the effect of remittances inflow on macroeconomic variables. Kireyev (2006) argues in this context that the impact of remittance depends on the structural characteristics such as consumption and investment patterns as well as the capacity to manage large financial inflows of the recipient country. DilipRatha and Sankar Mahapatra (2007) review the recent experiences of the developing countries in regard to the impact of remittances on poverty, growth, real wages, and external competitiveness. Their study handles the policy options available to the developing countries when remittances inflows are high and persistent. Along these lines, Singh, and Hari (2011) have gone through to show the impact of remittances on various macroeconomic and developmental aspects of the Indian economy they have examined data on remittances and some of the macroeconomic variables like the GDP, GDCF, savings, FDI, FII, export, import, and balance of trade deficit for the period between 1971 and 2008. Our study gives a hint to that, expanding the period from 1975 to 2016 to have a better mirror.

Variables, Data and Methodology

As per the objective the empirical analysis of our study employs annual dataset covering the period 1975 to 2016. The time series data on Remittances Inflow are taken from World Development Indicators of World Bank (2016). On the other hand, time series data on Output, Inflation are collected from Handbook of Statistics on the Indian Economy published by RBI (2016).

Apart from the Remittances inflow a set of Control Variables are used in our empirical analysis. Especially in the identification of the impact of Remittances Inflow on the Economic Growth or Output we have used M_3 money supply as share of GDP as a proxy of financial development, Total Government Expenditure as share of GDP, Gross Fixed Capital Formation as a share of GDP, Net FDI as a share of GDP and Real Export. The data on Net FDI inflow are collected from World Development Indicators of World Bank and for the other variables viz. M_3 money supply, Total Government Expenditure, Gross Fixed Capital Formation, and Export are collected from the RBI's Handbook of Statistics on the Indian Economy.

Table 3: Representation of Variables

Variables	Specification	Representation
Remittances inflow	Real remittances inflow = Remittances inflow Rs billion/ CPI_2010	R_REM

Output	Real GDP = GDP at current market price Rs billion/ CPI_2010	R_GDP
M ₃ as a share of GDP	M ₃ Rs billion/ GDP at current market price Rs billion	M ₃ _GDP
Total Govt. Expenditure as a share of GDP	Total Govt. Expenditure Rs billion/ GDP at current market price Rs billion	TEXP_GDP
Gross Fixed Capital Formation as a share of GDP	Gross Fixed Capital Formation Rs billion/ GDP at current market price Rs billion	GFCF_GDP
Net FDI as a share of GDP	Net FDI inflow Rs billion/ GDP at current market price Rs billion	FDI_GDP
Real Export	Total export Rs billion/ CPI_2010	R_X

Source: Authors' own representation

The study uses a battery of time series econometric techniques as methodology. At first the Descriptive Statistics are being analysed. All of the statistics are calculated using the observations in the current sample.

After the Descriptive Statistics it is an important issue to check whether a series is stationary or not before using it in a regression,

In the event of same order of integration (I(1)) among the variables the long run relationship of GDP with the selected determinants have enquired by Johansen (1988, 1995) co-integration technique. Presence of co-integration implies that we run the error correction model (ECM) to correct for the short-term disequilibrium as the variables move towards long run equilibrium, and the short run dynamics of the co-integrating relationship is assessed by Vector Error Correction model (VECM). The VEC has co-integration relations built into the specification so that it restricts the long run behaviour of the endogenous variables to converge to their co-integrating relationships while allowing for short-run adjustment dynamics. The co-integration term is known as the Error Correction Term (ECT) since the deviation from long-run equilibrium is corrected gradually through a series of partial short-run adjustments. VECM has a scope to study the nature and direction of the causal impact of the selected determinants including Remittances inflow (REM) on Output (GDP).

If the estimated dynamics is maintained at the near future, then how the GDP profile get constituted through these endogenous random innovations of control variables are ascertained through a variance decomposition analysis. This analysis has a scope for identifying the relative strengths of innovations affecting GDP profile in the out of-sample forecast horizon.

Empirical Results of Remittances and Economic Growth

According to our objective, to assess the possibility of the long run relationship among the selected macroeconomic variables Output (LR_GDP), Total Govt. Expenditure as a share of GDP (TEXP_GDP), Gross Fixed Capital formation as a share of GDP (GFCF_GDP), Money Supply as a share of GDP (M₃_GDP), Real Export (LR_X), Net FDI as a share of GDP (FDI_GDP), Remittances inflow (LR_REM) time series data from the period 1975 to 2016 of those variables are being used as discussed previously.

Table 4 shows us the descriptive statistic summary of the selected variables. The Table 4 highlights that the average i.e. Mean of the Output (LR_GDP) is highest, 10.411 followed by Real Export (LR_X) reported as 7.862, Remittances inflow (LR_REM) as 6.335, Net FDI as a share of GDP (FDI_GDP) as 0.77, Money Supply as a share of GDP (M₃_GDP) as 0.527, Gross Fixed Capital formation as a share of GDP (GFCF_GDP) as 0.258 and the average of Total Govt. Expenditure as a share of GDP (TEXP_GDP) is lowest, 0.154 among the variables. The table also reveals that the highest Median value among the variable is Output (LR_GDP) with a Median value 10.422 and the lowest Median value variable is Total Govt. Expenditure as a share of GDP (TEXP_GDP) with a value of 0.153.

Table also declares the Coefficient of Variations (C.V.) of the variables, among the variables Net FDI as a share of GDP (FDI_GDP) has the highest C.V. (117.532%) followed by Money Supply as a share of GDP (M₃_GDP) (33.776%), Gross Fixed Capital formation as a share of GDP (GFCF_GDP) (20.155%), Remittances inflow (LR_REM) (19.842%), Real Export (LR_X) (14.334%), Total Govt. Expenditure as a share of GDP (TEXP_GDP) (9.740%) and the lowest has acquired by the Output (LR_GDP) (6.416%).

According to Table 4 all the variables are positively skewed except Remittances inflow (LR_REM), which is negatively skewed. Furthermore, information we can gather from the table 4 that all the variables

are platykurtic i.e., the value coefficient is less than 3 on the other hand only one variable, Net FDI as a share of GDP (FDI_GDP) is leptokurtic whose value of coefficient is more than 3.

The graphical representation of the time series data of the variables is presented in Figure 1. As can be seen from Figure 1, there is a trend in each of the series of the selected variables and therefore, the means and variances of the time series data of the variables are changing over time, so the series in their original form may not be stationary.

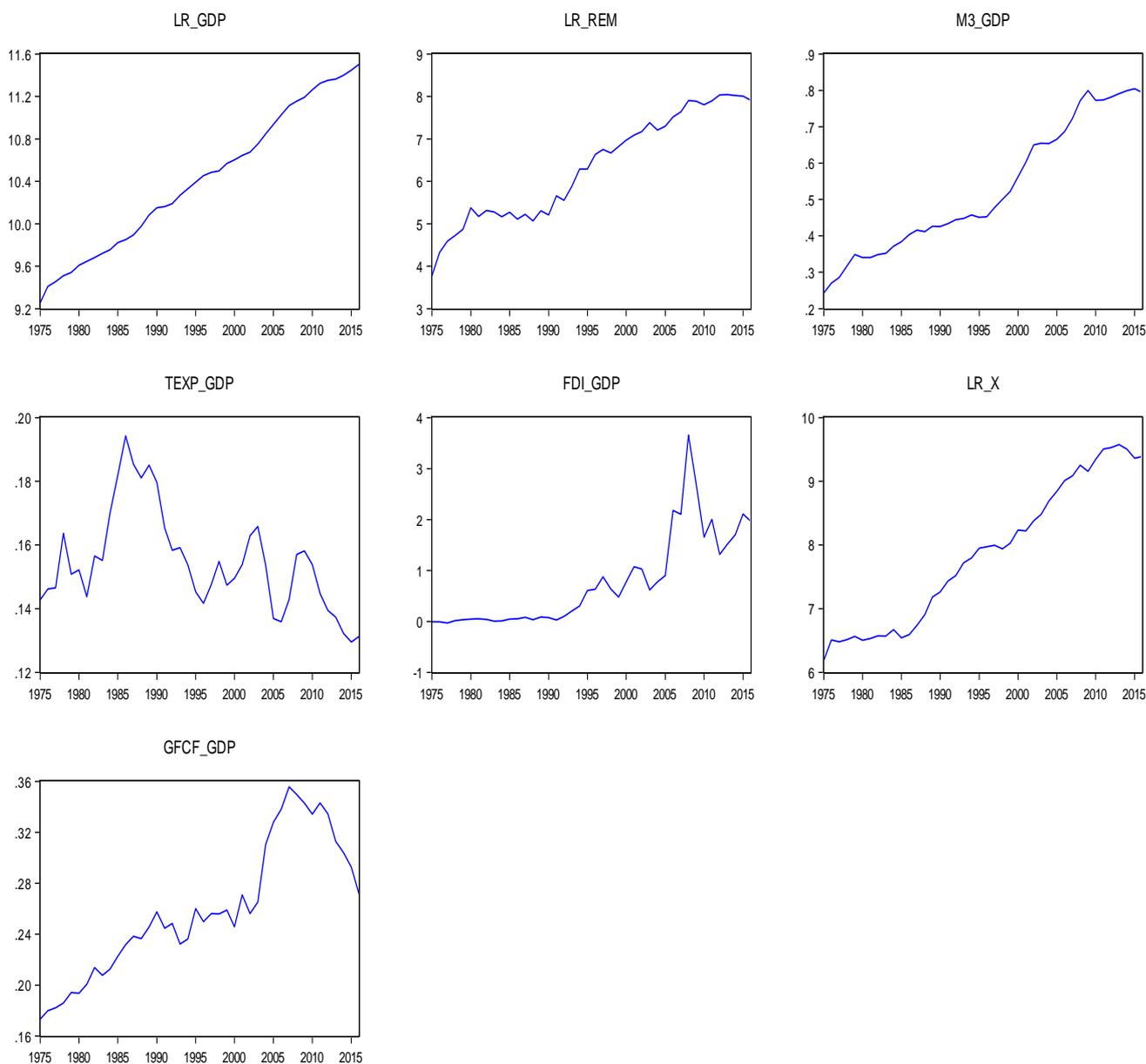
The first step in this regard is to check whether the concerned variables are stationary or not or in other words the order of integration. The results of the Augmented Dickey Fuller (1981) tests considering at first the assumption of only intercept and further considering the assumption of both intercept and trend are reported in the Table 5, 6 and the results of PP Peron (1988) test considering at first the assumption of only intercept and further considering the assumption of both intercept and trend are revealed in Table 7, 8.

Table 4 Descriptive Statistics of the Selected Variables

	LR_GDP	LR_REM	TEXP_GDP	GFCF_GDP	FDI_GDP	M3_GDP	LR_X
Mean	10.41157	6.335013	0.154598	0.258824	0.770822	0.527555	7.862650
Median	10.42219	6.458956	0.153704	0.252825	0.541033	0.455067	7.943780
Maximum	11.50337	8.041323	0.194216	0.355703	3.656951	0.804794	9.577388
Minimum	9.255034	3.774866	0.129485	0.173162	-0.030083	0.242795	6.187828
Std. Dev.	0.668834	1.257323	0.015703	0.052201	0.905782	0.178749	1.127076
C.V.	6.416	19.842	9.740	20.155	117.532	33.776	14.334
Skewness	0.059923	-0.097916	0.709110	0.312417	1.219341	0.298579	0.107864
Kurtosis	1.776553	1.676295	2.952824	2.108213	3.885650	1.682159	1.581349

Source: Computed by the researcher

Figure: 1 Graphical representation of time series data of the variables



Source: Computed by the researcher

Table 5: Augmented Dickey Fuller (ADF) Unit Root Tests (Intercept)

Variables and Specifications	Level		First Difference		Order of Integration
	Statistic	Prob.	Statistic	Prob.	
Output (LR_GDP)	-0.085	0.94	-4.244	0.00*	I (1)
Total Govt. Expenditure as a share of GDP (TEXP_GDP)	-2.024	0.27	-3.931	0.00*	I (1)
Gross Fixed Capital formation as a share of GDP (GFCF_GDP)	-1.659	0.44	-5.262	0.00*	I (1)
Money Supply as a share of GDP (M3_GDP)	-0.580	0.86	-3.776	0.00*	I (1)
Real Export (LR_X)	-0.619	0.85	-5.985	0.00*	I (1)
Net FDI as a share of GDP (FDI_GDP)	-1.370	0.58	-7.358	0.00*	I (1)
Remittances inflow (LR_REM)	-1.940	0.31	-7.896	0.00*	I (1)

Source: Computed by the researcher

(* Significant at 1%, ** Significant at 5%, *** Significant at 10%)

Table 6: Augmented Dickey Fuller (ADF) Unit Root Tests (Intercept & Trend)

Variables and Specifications	Level		First Difference		Order of Integration
	Statistic	Prob.	Statistic	Prob.	
Output (LR_GDP)	-2.996	0.14	-4.184	0.01*	I (1)
Total Govt. Expenditure as a share of GDP (TEXP_GDP)	-2.689	0.24	-4.023	0.01*	I (1)
Gross Fixed Capital formation as a share of GDP (GFCF_GDP)	-0.568	0.97	-5.486	0.00*	I (1)
Money Supply as a share of GDP (M ₃ _GDP)	-2.171	0.49	-3.725	0.03**	I (1)
Real Export (LR_X)	-2.797	0.20	-5.895	0.00*	I (1)
Net FDI as a share of GDP (FDI_GDP)	-3.017	0.14	-7.172	0.00*	I (1)
Remittances inflow (LR_REM)	-2.401	0.37	-8.003	0.00*	I (1)

Source: Computed by the researcher

(* Significant at 1%, ** Significant at 5%, *** Significant at 10%)

Table 7: PP Unit Root Tests (Intercept)

Variables and Specifications	Level		First Difference		Order of Integration
	Statistic	Prob.	Statistic	Prob.	
Output (LR_GDP)	-0.720	0.83	-5.979	0.00*	I (1)
Total Govt. Expenditure as a share of GDP (TEXP_GDP)	-1.739	0.40	-5.238	0.00*	I (1)
Gross Fixed Capital formation as a share of GDP (GFCF_GDP)	-1.674	0.43	-5.455	0.00*	I (1)
Money Supply as a share of GDP (M ₃ _GDP)	-0.588	0.86	-3.577	0.01**	I (1)
Real Export (LR_X)	-0.627	0.85	-6.040	0.00*	I (1)
Net FDI as a share of GDP (FDI_GDP)	-1.276	0.63	-7.544	0.00*	I (1)
Remittances inflow (LR_REM)	-1.886	0.33	-7.705	0.00*	I (1)

Source: Computed by the researcher

(* Significant at 1%, ** Significant at 5%, *** Significant at 10%)

Table 8: PP Unit Root Tests (Intercept & Trend)

Variables and Specifications	Level		First Difference		Order of Integration
	Statistic	Prob.	Statistic	Prob.	
Output (LR_GDP)	-2.547	0.30	-5.849	0.00*	I (1)
Total Govt. Expenditure as a share of GDP (TEXP_GDP)	-2.280	0.43	-5.892	0.00*	I (0)
Gross Fixed Capital formation as a share of GDP (GFCF_GDP)	-1.290	0.87	-5.636	0.00*	I (1)
Money Supply as a share of GDP (M ₃ _GDP)	-1.568	0.78	-3.527	0.04**	I (0)
Real Export (LR_X)	-1.865	0.65	-5.960	0.00*	I (1)
Net FDI as a share of GDP (FDI_GDP)	-3.017	0.14	-7.454	0.00*	I (1)
Remittances inflow (LR_REM)	-2.797	0.20	-7.773	0.00*	I (1)

Source: Computed by the researcher

(* Significant at 1%, ** Significant at 5%, *** Significant at 10%)

As we have found all the variables are stationary at 1st difference now as mentioned earlier the long run relationship of Output (LR_GDP), Remittances inflow (LR_REM) and other control variables have enquired by Johansen (1988, 1995) cointegration technique. To determine the existence and the number of cointegrating vectors, Johansen cointegration technique is used. There are two hypothesis tests used for cointegration testing, called the Trace (λ trace) test and Maximum Eigen value (λ max) test. The cointegration test results at 5% level of significance are presented in Table 9 and 10.

Table 9: Johansen Cointegration Test Results

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob
None*	0.7961	172.9550	150.5585	0.00*
At most 1	0.5995	107.7595	117.7082	0.17
At most 2	0.4972	70.2383	88.8038	0.49
At most 3	0.3111	42.0425	63.8761	0.77
At most 4	0.2695	26.7597	42.9152	0.69
At most 5	0.1651	13.8812	25.8721	0.66
At most 6	0.1462	6.4822	12.5179	0.40

Source: Computed by the researcher

(* Significant at 1%, ** Significant at 5%, *** Significant at 10%)

Table 10: Johansen Cointegration Test Results

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob
None*	0.7961	65.1955	50.5998	0.00*
At most 1	0.5995	37.5211	44.4972	0.23
At most 2	0.4972	28.1957	38.3310	0.44
At most 3	0.3111	15.2828	32.1183	0.93
At most 4	0.2695	12.8785	25.8232	0.81
At most 5	0.1651	7.3989	19.3870	0.87
At most 6	0.1462	6.4822	12.5179	0.40

Source: Computed by the researcher

(* Significant at 1%, ** Significant at 5%, *** Significant at 10%)

From the results above so far, we found that the variables are stationary at 1st difference i.e. I (1) and are cointegrated. Therefore, they have a long-term relationship. So, their short-run fluctuation can be described by their first differences, which are stationary. The interactions in the short-run fluctuations may therefore be described by a VAR system in first differences. We determine the optimal lag length for the VAR system by using the Schwarz (1978) Criterion (SC) and the Akaike (1974) Information Criterion (AIC). We used a VAR system of "i" lags and estimate it for various lag lengths and found that the optimal lag lengths for Output (LR_GDP) and Remittances Inflow (LR_REM) and other control variables, to be 2. So, from the foregoing discussion and the review of the literature, the effect of Remittances inflow (LR_REM) on the Output (LR_GDP) can be represented as follows: -

$$\Delta LR_GDP_t = \alpha + \sum_{i=0}^{n_1} \beta_{1i} \Delta LR_GDP_{t-i} + \sum_{i=0}^{n_2} \beta_{2i} \Delta LR_REM_{t-i} + \sum_{i=0}^{n_3} \beta_{3i} \Delta TEXP_GDP_{t-i} + \sum_{i=0}^{n_4} \beta_{4i} \Delta M_3_GDP_{t-i} + \sum_{i=0}^{n_5} \beta_{5i} \Delta GFCF_GDP_{t-i} + \sum_{i=0}^{n_6} \beta_{6i} \Delta FDI_GDP_{t-i} + \sum_{i=0}^{n_7} \beta_{7i} \Delta LR_X_{t-i} + \lambda ecm_{t-1} + \epsilon_t$$

According to the test it reveals that the variables have a long run relationship at 1% level of significance. The results of cointegration test are interpreted through Vector Error Correction Model (VECM) which is a restricted version of VAR model designed for non-stationary time series. VECM captures the linear relationship among multiple time series by adding error correction features. The error correction term (ECT) tells how much the error is being corrected or adjusted from short run disequilibrium to long run equilibrium. The result of VECM is stated in Table 11.

Table 11: Vector Error Correction Estimates

Dependent Variable D(LR_GDP)

Regressors	Coefficient	t-Statistic	Regressors	Coefficient	t-Statistic
CoinEq1	-0.2952	-2.0636**	D (M ₃ _GDP (-1))	-0.3632	-0.9009
D (LR_GDP (-1))	0.3672	1.5002	D (M ₃ _GDP (-2))	0.7697	2.3862**
D (LR_GDP (-2))	0.1763	0.7135	D (FDI_GDP (-1))	0.0274	1.9304**

D (LR_REM (-1))	-0.1270	-2.6808*	D (FDI_GDP (-2))	0.0302	2.0755*
D (LR_REM (-2))	-0.0815	-1.9156**	Constant	0.0433	3.0774*
D (TEXP_GDP (-1))	-1.6130	-2.1337**	R squared	0.5412	
D (TEXP_GDP (-2))	-0.9306	-1.4673	Adj. R squared	0.2419	
D (GFCF_GDP (-1))	-0.5452	-1.2112	D-W Stat	2.0144	
D (GFCF_GDP (-2))	-0.5676	-1.2294	Akaike (AC)	-4.5663	
D (LR_X (-1))	-0.0309	-0.3920	Schwarz (SC)	-3.8838	
D (LR_X (-2))	-0.0327	-0.6104			

Source: Computed by the researcher

(* Significant at 1%, ** Significant at 5%, *** Significant at 10%)

In the above study VECM was used to examine short runs dynamics and correct for short run disequilibrium among the variables LR_GDP, LR_REM, TEXP_GDP, GFCF_GDP, LR_X, M₃_GDP, and FDI_GDP. The co-efficient of error correction term (ECT) is equal to -0.2952 and is statistically significant at 5%. The sign of (ECT) conforms to the restriction of negativity and less than one (Gujarati, 2009). It also implies that the rate at which short runs disequilibrium is being corrected to arrive to the long run equilibrium at a rate of 29.52% per annum. From the above results we can conclude that the Output (LR_GDP) is determined by lag values of Remittances inflows (LR_REM), Total Govt. Expenditure (TEXP_GDP), FDI (FDI_GDP) and Money supply (M₃_GDP). We have provided empirical evidence showing that remittances inflow has a negative impact in both the 1st lag (-0.1270 at 1% level of significance) and 2nd lag (-0.0815 at 5% level of significance) on the Output of India.

On the other hand, empirically, it is observed that Total Govt. Expenditure (TEXP_GDP) has negative impact at 5% level of significance which can be justified that initially Govt. Expenditure may have a negative impact or no impact as a Govt. Expenditure requires sum lag period to give a positive thrust to the economy. However, the positive impact of FDI (FDI_GDP) in the 1st lag and in the 2nd lag at 5% and 1% level of significance respectively, FDI through its spillover effect have direct positive economic growth of the host countries, which support the view of positive correlation among foreign capital inflow and economic growth.

Whereas it is empirically also evident the theoretical opinion that the increase in money supply can spur the economic growth through demand side. According to standard macroeconomic theory, an increase in the supply of money should lower the interest rates in the economy, leading to more consumption and lending/borrowing. In the short run, this should increase the Output (GDP) of the economy. Here Money supply positively influences Output in the 2nd lag at 5% level of significance.

The empirical result VECM also reveals that there is no autocorrelation detected in the sample with D-W value of 2.01. The Durbin Watson (DW) statistic is a test for autocorrelation in the residuals from a statistical regression analysis. The Durbin-Watson statistic will always have a value between 0 and 4. If the value comes out to be 2.0 means that there is no autocorrelation detected in the samples. Values from 0 to less than 2 indicate positive autocorrelation and values from 2 to 4 indicate negative autocorrelation.

Now if the estimated dynamics is maintained at the near future, then how the Output (LR_GDP) profile get constituted through these endogenous random innovations of control variables are ascertained through a variance decomposition analysis. This analysis has a scope for identifying the relative strengths of innovations affecting the Output (LR_GDP) profile in the out of-sample forecast horizon. The result of Variance Decomposition is shown in Table 12.

Table 12: Variance Decomposition of LR_GDP

Variance Period	LR_GDP	GFCF_GDP	FDI_GDP	LR_X	M ₃ _GDP	LR_REM	TEXP_GDP
1	92.2077	0.0000	0.0000	0.0000	0.0000	7.7922	0.0000
2	72.8644	0.0354	0.9260	1.8015	0.5860	20.9859	2.8005
3	67.1729	1.0829	0.5220	3.5860	0.6578	20.3433	6.6347
4	61.9717	3.2629	1.3732	5.2455	3.0723	17.8636	7.2105
5	57.4728	4.3048	2.7324	5.8566	6.6303	16.0716	6.9312
6	54.4104	5.2279	3.9475	6.2006	9.6010	14.5656	6.0466
7	51.5644	5.6415	5.1190	6.6079	11.8824	13.6952	5.4893
8	49.0730	6.1908	6.4273	7.0036	13.9510	12.4915	4.8624
9	46.4556	6.6729	7.8978	7.4252	15.8758	11.3516	4.3208
10	44.2192	7.1061	9.2761	7.7268	17.6388	10.2389	3.7939

Source: Computed by the researcher

(* Significant at 1%, ** Significant at 5%, *** Significant at 10%)

According to Table 12 it is found that the Remittances inflow innovation would account 20.98% variance of Output at the 2-forecast period horizon that is the highest innovation among 10 forecast horizon and 10.23% of such variance at the 10-forecast period horizon. The variance decomposition analysis, therefore, confirms that in the near future the Remittances inflow may be an important cause for negative Output growth in India.

Conclusions

In what follows from our dissertation is the fact that Indian emigration has been taking place since centuries and therefore they are not fortuitous, it is systematic. History is the evidence to the fact that India witnessed massive movements of people from the country to other parts of the world. This happened during the 19th, 20th and 21st centuries. It goes back several centuries the intimate contact with the Persian Gulf region and south-east Asia, both in terms of trade in goods and movement of people. According to the Ministry Overseas Indian Affairs, India is the second largest diaspora in the world and the highest recipient of remittances. The money that migrants send home is very important not only to their families but also to their country's balance of payments. At the macro level, remittances inflow is an important source of external financing for developing countries, often providing a steady source of capital in excess of funds generated through FDI and portfolio flows. Importantly, remittances flow also serves to stabilize recipient economies at times of economic downturn brought on by such phenomena as a natural disaster, financial crisis, political conflict etc. In essence, inflows can be counter-cyclical to smooth macroeconomic shocks in the migrants' home countries. It is true that remittances have proved to be an important and stable source of external finance to cushion the impact of a weak merchandise trade account in India. In Sri Lanka also, as its economy was subject to the external supply-side shock of a rapid rise in international oil prices during 2004-2008, a sharp deterioration in the current account of BoP was offset by higher inflows of remittances. For India, inward remittances flows have been pivotal in financing the trade deficit (43 per cent in 2017-18). Thus, the overall developmental impact of remittances is quite significant.

Emigrants send home money by way of periodic remittances. One of the inevitable consequences is the increase in disposable income at the household level thus providing financial resources for household. The sudden increase in household income has had a considerable impact on household consumption patterns (food; clothing, electric appliances such as rice cooker, water boiler, mobile phones; payment of electricity and telephone bills; etc.). Inflows of remittances from the people working abroad have had a significant effect on poverty eradication with the result that the overall percentage of people in the country in question decreases. Econometric evidence also confirms positive impact of remittances on poverty. Anecdotal evidence suggests that remittances have helped alleviating poverty for many of the households,

both in the rural and the urban areas. The World Bank (2006) finds that remittances can reduce poverty, improve households' ability to withstand adverse shocks (for example, households receive higher levels of remittances during adverse health outcomes, crop failures.), provide credit for household enterprises, and improve household investments on education and health. (*World Bank, 2006: 117-127*). Inflows of remittances from the migrants abroad reduces the unemployment rate of the country. Thus, remittances have a poverty reducing and welfare enhancing impact, in particular for individuals' welfare improving. They are desirable despite its negative effects such that it can generate "Dutch Disease" effects, making capital less costly relative to labour and reduce country's competitiveness of the export sector following a sizeable surge in inflows leading to a real exchange rate appreciation and reduce export-oriented sectors. However, some policies can be prudently used to counter the negative impact of remittances inflows. A number of programmes and schemes that covers issue of governance in the process of labour migration and the protection and welfare of migrant workers and their families may be instituted by the Indian government.

In addition, remittances are an important source of national savings that can lift the investment rate of a country. The savings take the form of direct investment, cash, or deposits into the financial system. A low volume of domestic savings is always a hindrance for a country to lift up its investment rate. India has managed to maintain a much higher level of national savings, and thus, a higher level of total investment in the economy. While such inflows that increase investments are likely to have a positive effect on economic growth, a good investment climate – including the presence of a well-developed financial system – will partly determine the extent to which remittances are invested in physical and human capital.

The existing literature articulating on remittance impacts is divided between those analysts who suggest that remittances have no developmental impact but only creates over consumption, dependency and disincentive to work and those who argue that remittances may lead to economic development and poverty alleviation in the developing countries. The big question in this debate is the way the term development has been conceptualized differently by researchers who have been analyzing the impacts of remittances on receiving families and communities. The questions remain: what is real development? What makes development to happen? It is also argued that in most cases remittances are not invested in productive areas and the largest part is consumed. This is true; however, it should also be recognized that remittance transfers are of different types with a variety uses and potentials for development, and therefore disaggregated data showing different types of remittances on how they are used and why is needed to be able to come up with reliable conclusions that are necessary for policy intervention.

There are various factors that are listed as reasons for impact of remittances to development. It is claimed that a substantial part of remittance flows is underreported in most developing countries and also a significant amount of about 35 to 75 percent of formal remittances is transferred through informal channels and in that way reducing their impact on development (Freund and Spatafora 2005). Factors that are being blamed for higher informal remittance flows in developing countries include weak financial systems, larger exchange rate spread and higher transaction costs of sending remittance through formal/official/registered channels.

Our study, however, examines the long run and short run relationship among Remittances Inflow, Output, and other selected control variables. The empirical findings from the error-correction model show that the Output adjust to its equilibrium rapidly in short run. From the above results we can conclude that the GDP is determined by lag values of remittances inflows, total govt. expenditure, gross fixed capital formation, FDI and money supply. We have provided empirical evidence showing that remittances inflow has a negative impact on the GDP of India. The co-efficient of error correction term (ECT) is equal to -0.2952 and is statistically significant at 5%. The sign of (ECT) conforms to the restriction of negativity and less than one (Gujarati, 2009). It also implies that the rate at which short runs disequilibrium is being corrected to arrive to the long run equilibrium at a rate of 29.52% per annum. From the above results we can conclude that the Output (LR_GDP) is determined by lag values of Remittances inflows (LR_REM), Total Govt. Expenditure (TEXP_GDP), FDI (FDI_GDP) and Money supply (M₃_GDP). We have provided empirical evidence showing that remittances inflow has a negative impact in both the 1st lag (-0.1270 at 1% level of significance) and 2nd lag (-0.0815 at 5% level of significance) on the Output of India.

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Employee engagement, ethical leadership and crisis

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Keywords

employee engagement; ethical leadership; person-organisation fit; affective commitment; psychological climate; crisis management

Abstract

The Greek economic crisis is part of the ongoing Eurozone crisis and was triggered by the global economic recession in October 2008. The Greek society as a whole is affected. This study examines, through critical literature review, the effect of crisis on a number of important work-related attitudes such as employee engagement, person-organisation fit, affective commitment, psychological climate and ethical leadership. Furthermore, using crisis management (CM) theory, we examine employee engagement and ethical leadership as useful and efficient tools to cope with the crisis. Moreover, this correlation study tests whether the affected from Greek economic crisis person-organisation fit, affective commitment, psychological climate and ethical leadership relate with employee engagement. To the best of the researchers' knowledge, there is no other research to date which examines the aforementioned relationships during the Greek economic crisis. Based on relevant literature, we predict that employee engagement should have positive relations with person-organisation fit, affective commitment, psychological climate and ethical leadership under an economic crisis. Analysing empirical data from a heterogeneous sample of Greek private sector employees, we found evidence supporting our hypotheses. The paper concludes with a discussion of the findings and implications for further research.

Theoretical framework

In the recent years of austerity and global financial recession, crisis has hit many companies in Greece and all over the world. In most of the Human Resource forums, articles and journals, employee engagement and ethical leadership are repeatedly being discussed as solutions so that businesses and organizations are saved from extreme crisis environments.

According to crisis management (CM) theory, in order to successfully deal with a crisis, an organization should first understand how to handle it, even before it begins. Previous research (i.e., Webser, 2000; Hauschildt, 2000; Mitroff, 2004) tried to explore the concept of a company's crisis situation and to understand company life cycles and crisis expression. Nowadays, in the literature the emphasis is given to the description of the modern crisis (Rosenblatt, 2002; Valackiene, 2011) which has aspects that were not noticed earlier, i.e., economic growth and recession, while the aspect of change management and the integration of both human resource and technical-organizational spheres are highlighted. Ethical leadership and employee engagement are two promising strategies in order to deal with a crisis (e.g., Welch, 2011; Saji, 2014; Markovits, Boer, & Dick, 2014; Dorasame, 2010).

Recent evidence (Welch, 2011; Saji, 2014) draws the attention to employee engagement as a tool that can lead to organization success, productivity and effectiveness during times of crisis. Researchers who study employee engagement (Schaufeli and Bakker, 2004; Rich, LePine, & Crawford, 2010) suggest that it is a core underlying mechanism that gives light to other behavioural and attitudinal outcomes. While a variety of engagement frameworks exist in literature (i.e., Maslach, Schaufeli, & Leiter, 2001; Saks, 2006; Albrecht 2010; Harter, Schmidt, and Hayes 2002; Macey & Schneider 2008), Kahn's framework proposes three underlying conditions that reflect an employee's willingness to engage. As there is sufficient evidence (Shuck, Reio Jr, & Rocco, 2011) that job fit, affective commitment and psychological climate reflect those underlying conditions, we purposely select Kahn's (1990) original engagement framework to build our hypotheses. According to Kahn (1990), the three constructs in understanding how engagement develops are meaningfulness, safety and availability. Meaningfulness is the feeling that one's work is worthwhile

along with a sense of value in his/her accomplishments at work (Kahn, 1990). Safety is conceptualized as the ability to be one's preferred self without fearing 'negative consequences to self-image, status, or career' (Kahn, 1990). Availability is seen as having the physical, emotional, and psychological resources necessary for the completion of work (Kahn, 1990).

From an ethical leadership perspective, Schwartz, Cragg, & Hoffman (2012) suggest that leaders that do not pay attention to ethical dimensions of CM expose their organizations to serious risks. This finding parallels with the findings of other studies (Markovits et al., 2014; Dorasame, 2010) that posit that ethical leadership is a very useful tool in CM. In the past decade, interest in studying ethical leadership and its antecedents, outcomes and processes has been increasing steadily. According to Brown & Trevino (2002), ethical leadership is the demonstration of appropriate behaviour through 'personal actions' and 'interpersonal relationships and the promotion of such behaviour to employees through two-way communication, reinforcement, and decision-making. Ethical leaders communicate frequently and openly with employees, setting clear ethical standards and using rewards and punishments to ensure that those standards are embraced (Strang, 2008). According to Yukl (2006), an ethical leader is the person who promotes honesty and mirrors his or her actions with their values and beliefs. Brown, Trevino, & Harrison (2005) noted that the combination of employees' integrity, ethical standards and fair treatment are the roots of ethical leadership, while

Purpose of the study and research hypotheses

The aim of this research is to study the influence of the Greek economic crisis on ethical leadership and employee engagement and show the relations between the influenced from crisis job fit, affective commitment, and employees' perceptions of psychological climate and ethical leadership with employee engagement. This influence is examined from a CM perspective. According to CM theory, an organization can have positive outcomes in dealing with a crisis when employee engagement and ethical leadership take place (Welch, 2011; Saji, 2014; Schwartz et al., 2012; Markovits et al., 2014; Dorasame, 2010).

The main research question that guides this study is: what is the relation between the affected from crisis variables of job fit, affective commitment, psychological climate and ethical leadership with employee engagement? To explore this research question, four research hypotheses are tested:

H1: The affected from crisis job fit relates negatively with employee engagement.

H2: The affected from crisis affective commitment relates negatively with employee engagement.

H3: The affected from crisis psychological climate relates negatively with employee engagement.

H4: The affected from crisis ethical leadership relates negatively with employee engagement.

Methodology

The study uses primary data based on a questionnaire that was distributed to Greek employees. The research method used in this study is a deductive one as the study focuses on testing if a set of hypotheses obtain on a general pattern. Moreover, an empirical study is administered, and the findings are analyzed based on secondary research (literature review). For the purpose of the empirical study the case of Greece, during the ongoing crisis of 2008, is used as a case study. Greece is chosen as it is an example of crisis. Furthermore, there is no other study to date that examines the relations among a number of work-related attitudes during Greek economic crisis.

Organisational behaviour in a crisis period

The Greek economic crisis was triggered by the global economic recession in October 2008. Not only the employees, but the Greek society as a whole is affected by the crisis. According to the Hellenic Statistical Authority, Greece has the highest unemployment rate in Europe. Even worse, the highest unemployment rate is recorded among the ages of 15-24 years. Moreover, there was a decrease in the seasonally adjusted index of wages of the 4th quarter 2013 compared with the corresponding index of the 4th quarter 2012 for Greece and Cyprus. Finally, statistics on income and living conditions revealed that in 2012, a large proportion of the total population was at risk of poverty.

Concluding, the last seven years of the crisis were very difficult for the Greek population resulting in dissatisfaction, uncertainty and desperation, which in turn had an impact on work-related attitudes, such as, employee engagement, psychological climate, job fit, affective commitment and ethical leadership

(Markovits et al., 2014; Lee and Corbett, 2006; Matz-Costa, Pitt-Catsouphes, Besen, & Lynch., 2009; Plinio, Young, & Lavery, 2010; Martin & Gollan, 2012; Cooper & Antoniou, 2013).

Employee engagement

Shuck (2013) expressed that employee engagement can be defined 'as a positive cognitive, emotional, and behavioural state directed toward organizational outcomes' (Shuck, 2013, p.138). Four major approaches exist that define the concept of employee engagement. These are: (a) Kahn's (1990) need-satisfying approach, (b) Maslach et al.'s (2001) burnout-antithesis approach, (c) Harter et al.'s (2002) satisfaction -engagement approach and (d) Saks's (2006) multidimensional approach. Each of the four approaches proposes a different perspective, nevertheless, they all unanimously conclude that organizations that develop employee engagement have the potential to significantly obtain important organizational outcomes (Harter et al., 2002; Maslach et al., 2001; Macey & Schneider, 2008; Saks, 2006). According to Bakker & Schaufeli (2008), organizations need engaged employees, and they are looking for ways to develop this workforce. Moreover, Welch (2011) suggests that employee engagement is the most important factor that can drive organization success and organization effectiveness.

However, employee engagement is one of the most affected by the crisis work-related attitudes. Matz-Costa et al. (2009) suggest a significant decline in overall levels of engagement since the economic crisis. A survey that was conducted by the global consulting firm Watson Wyatt in 2009 highlighted those levels of employee engagement dropped 9% over 2008. The study also revealed that levels of engagement of the companies' top performers dropped 25% over 2008 (Watson Wyatt, 2009). Furthermore, evidence shows that during an economic crisis, employees are forced to produce more for less (Covey, 2004) with fewer resources (Buckingham & Coffman, 1999) while having unclear job demands in a climate of low managerial support (Covey, 2004). As a result, employees get more disengaged in the workplace (Harter et al., 2002).

From a CM perspective, highly engaged employees are very important during a crisis as they are the force that helps the company get through it. Welch (2011) highlights that in order to deal with the crisis organizations should improve employee engagement as it can drive organization success and organization effectiveness. According to Saji (2014), during crisis, a company needs the service of engaged employees in order to be saved and to keep its customers happy. Research has shown (Welch, 2011; Saji, 2014) that the full power of employee engagement can save a company from the threat of a serious economic downturn.

Job fit

According to Resick, Baltes, and Shantz (2007), job fit is the degree to which a person feels that their personality and values fit with their current job. Researchers who study job fit (e.g., Resick et al., 2007; Biswas and Bhatnagar, 2013) posit that good job fit is linked with the feeling of engagement at work. Good job fit provides opportunities for the development of meaningful work (Kahn, 1990; Resick et al., 2007), as well as environments where employees feel psychologically and emotionally safe and available (Kahn, 1990; May et al., 2004). Employees with good job fit in their work roles are more likely to feel enthusiasm and energy while performing their jobs and be engaged in their work. However, job fit is more likely to be negatively influenced by a crisis situation. As Cooper and Antoniou (2013) suggest, if the individual perceives a shift in the organization's values and congruence is reduced, it is likely to lead in lower perceived levels of person-organization fit. However, even if the dissatisfied employee will seek for another organization with a higher degree of person-organization fit, he/she will be confined by the dominant job market conditions (Cooper & Antoniou, 2013). This study attempts to examine the relationship between job fit and employee engagement during a crisis situation. Figure 1 shows this correlation:

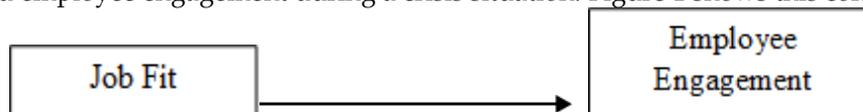


Figure 1: Job fit approach to employee engagement

Affective commitment

Rhoades, Eisenberger, and Armeli (2001) posited that affective commitment is the sense of belonging and emotional connection a person feels about his or her job, organization, or both. Moreover, Rhoades et

al. (2001) expressed that an employee's affective bond with their organization is an important antecedent of dedication, loyalty, and satisfaction. Research (e.g., Czarnowsky, 2008; Wagner & Harter, 2006) has proved that affective commitment has a strong relation to employee engagement. Moreover, many researchers (Saks, 2006; Macey & Schneider, 2008; Rhoades et al, 2001; May et al., 2004) suggest that affective commitment promotes the emotional connection employees have with their work and compares with the emotive qualities of engagement, including meaningfulness, safety and availability (Kahn, 1990). However, affective commitment is negatively influenced by a crisis (Markovits et al., 2014; Lee & Corbett, 2006). Markovits et al. (2014), who examined the impact of the recent economic crisis in Greece on employee work-related attitudes, found that participants, after the start of the crisis, were lower in affective commitment. This finding parallels Lee & Corbett's (2006) which examined the impact of downsizing following the 1997 Korean financial crisis on employees' affective commitment. The results indicated that the more severe the extent of downsizing, the lower employees' affective commitment to the organization. This study attempts to examine the relationship between affective commitment and employee engagement during a crisis situation. Figure 2 shows this correlation:

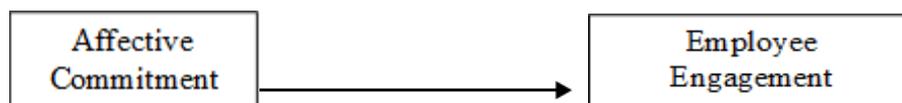


Figure 2: Affective commitment approach to employee engagement

Psychological climate

Psychological climate has been defined by Brown & Leigh (1996), who developed it using Kahn's (1990) theory of engagement framework, as a person's perception of his or her environment at work interpreted by his or her perception of wellbeing. Moreover, they expressed that its facets (i.e., supportive management, recognition, contribution and challenge) paralleled the conditions of meaningfulness, safety and availability used in Kahn's (1990) original conceptualization of engagement. This was supported by further evidence that showed that psychological climate has important linkages to employee engagement (Czarnowsky, 2008; Harter et al., 2002; Wagner & Harter, 2006). Psychological climate provides a framework to a particular organization's culture and research (Brown & Leigh, 1996; O'Neill & Arendt, 2008). Moreover, work environments perceived as psychologically safe impact performance (Brown & Leigh, 1996) as they let employees focus on available resources and desired work outcomes (Brown & Leigh, 1996; O'Neil & Arendt, 2008). However, as Judge & Kammeyer-Muller (2012) highlight, attitudes are unsteady and can be easily affected by external stimuli. Markovits et al. (2014) posit that an economic crisis influences to a great extent job attitudes. Psychological climate at work is a work-related attitude that is negatively influenced by the crisis. Cooper & Antoniou (2013) argue that the economic crisis may create a deterioration of the leader-member relationship, particularly if reductions in workforce occur, leading to an individual perceiving of deterioration of the psychological climate. Nevertheless, as Epitropaki (2011) suggests, Greek companies, in order to deal with the crisis, should retain a good psychological climate (i.e., internal promotions, internal talent exploitation, emphasis in moral appraisal and in communication, etc.). This study attempts to examine the relationship between psychological climate and employee engagement during the Greek economic crisis. Figure 3 shows this correlation:

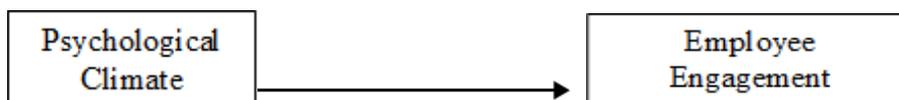


Figure 3: Psychological climate approach to employee engagement

Facets of psychological climate used in this study

Supportive management, contribution, recognition and challenge are the facets of psychological climate that are used and analysed in this study, as they are developed using Kahn's (1990) original framework of engagement.

Brown & Leigh (1996), based on Kahn's (1990) employee engagement framework, expressed that the extent to which management is perceived as flexible and supportive and employees feel that they have control over their work and the methods they use to accomplish it is an indicator of perceived psychological safety. Control, freedom of choice and sense of security generated by supportive management are likely to promote motivation and increase job involvement (Kahn, 1990), each of which is indicative of how psychologically safe and meaningful the employee perceives the organizational environment to be (Brown & Leigh, 1996).

In addition, the extent to which employees feel that (a) they make an important contribution toward achievement of organizational goals, (b) the organization sufficiently recognizes their contributions and (c) their work is challenging and contributory to personal growth are indicators of perceived psychological meaningfulness (Brown & Leigh, 1996).

Ethical leadership

Research and theory related to ethical leadership suggests that managers who exhibit ethical leadership influence organizational members through 'personal actions' and 'interpersonal relationships' (Brown et al., 2005, p. 120). Neubert et al. (2009) posited that, through ethical leadership behaviour, managers can affect employees' perceptions of ethical climate, which in turn will positively influence their job satisfaction and affective commitment to the organization. From another perspective, a review of the existing literature reveals that employees' perception of ethical leadership has a positive effect on employee engagement (Walumbwa & Schaubroeck, 2009; Den Hartog & Belschak, 2012; Heine, 2013; Khuong & Yen, 2014). Den Hartog & Belschak (2012) and Heine (2013), concluded that when employees perceived their leaders as acting ethically, they tended to report enhanced engagement in terms of feeling more vigor, dedication, and absorption at work.

However, research on CM has found that ethical leadership is negatively influenced by a crisis (e.g., Plinio et al., 2010; Martin & Gollan, 2012). Plinio et al. (2010) found that one of the most serious problems today is that organizations are facing poor ethical behaviour and non-existent ethical leadership. In addition, they found that trust in leadership is reduced, and the situation is worsened by a weak economy. According to Martin & Gollan (2012), the role of ethical behaviour is very important during a crisis period. They suggest that the HR strategy of a company should closely monitor leadership issues and (un)ethical behaviour.

Nevertheless, healthy leadership is of great significance during times of crises. As leaders' actions affect personally and financially their organizations, they play a critical role to their organizations. Social learning theory highlights that individuals are influenced by role models. According to Wood & Bandura (1989), managers' behaviour is more likely to be readily observed and reproduced. As a result, a need for ethical leadership is urgent in order to deal with a crisis (Dorasame, 2010). This argument is also highlighted by Markovits et al. (2014), who posit that managers should improve levels of morale by being fair and responsive to employees' needs and by treating them with respect. An ethical framework is imperative for social and economic development and can help a country get through the crisis (Dorasame, 2010). This study attempts to examine the relation among ethical leadership and employee engagement during a crisis situation. Figure 4 shows this correlation:

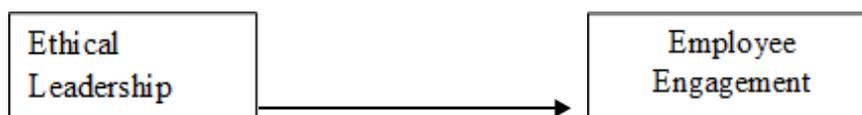


Figure 4: Ethical leadership approach to employee engagement

Methodology

Data Collection

Both primary and secondary research is used in this study. Relevant to the issues examined literature review is used in order to explore the nature of concepts and explain the relationships between the variables studied. A questionnaire is also used in order to gather primary data. Moreover, the questionnaire was distributed as an Internet-based self-report survey. The data was collected during the period from December 2014 until February 2015. The sample is random, while the questionnaire was designed using the Google Drive.

Sample

The population for this study consisted of individuals that work in all kinds of businesses in the private sector in Greece. Employees with any type of work experience could participate in the survey. The reason that the study focused on employees from the private sector is because the private sector was also, and in some respects more deeply, affected by the economic crisis than the public sector (Christopoulou & Monastiriotis, 2014).

In our sample participated 204 people, whereas 92 (45,1%) men and 112 (54,9%) women. The objective to have a balanced representation from both genders is achieved. The majority of the participants are 21-30 years old (33,3%). The group of 31-40 years old (30,9%) is second in participation and the group of 41-50 (15,7%) is third. 'Singles' and 'Married with children' gathered the highest percentages when participants were asked about their marital status (44,1% and 36,3% respectively). The majority of the participants have completed University (30,4%). The second in participation category is Postgraduate degree (Master) (19,1%). 75% of the participants work full-time, while 25% work part-time. 52,5% of the participants work as open-ended contract staff, but there is a sufficient number of participants with other types of working contracts. The majority of the sample works between 6 and 15 years (37,7%), while the second in participation category is less than 5 years (32,4%). These findings are expected since most of the participants are 21-30 and 31-40 years old. It is noticeable that 59,8% of the participants work in the current organization for less than 5 years.

Instrumentation

The instrument was scored by aggregating the total scores for each question on a given measure and reporting the total score as the composite score for the measure. The Modified Meaningfulness Scale (May, Gibson, & Harter, 2004), Modified Safety Scale (May et al., 2004), Modified Availability Scale (May et al., 2004), Modified Psychological Climate Measure (Brown & Leigh, 1996), Person-Organization Fit Scale (Resick et al., 2007), Affective Commitment Scale (Rhoades et al., 2001) and Ethical Leadership Questionnaire (Yukl, Mahsud, Hassan & Prussia, 2013) were synthesized together as different sections of the instrument, in order to measure the correlation between the above job related attitudes during the Greek economic crisis. Reliability was achieved with the use of internal consistency (Cronbach's Alpha). A 0,946 alpha was obtained.

Employee engagement was measured by combining the Modified Meaningfulness Scale, Modified Safety Scale and Modified Availability Scale. The above Scales, as well as the Modified Psychological Climate Measure, Person-Organization Fit Scale and Affective Commitment Scale were scored using 5-point Likert continuum from 1 (strongly agree) to 5 (strongly disagree). The Ethical Leadership Questionnaire was scored using 6-point Likert continuum from 1 (strongly agree) to 6 (strongly disagree). Supportive management and the levels of contribution, recognition and challenge were measured as they are the four from the six sub-scales of the Modified Psychological Climate Measure that relate to employee engagement (Shuck et al., 2011). Composite and individual scores from each question on a given measure were both examined for significance, while instruments were scored and reported separately.

The questionnaire was divided into six sections covering demographic information and the studied research variables. It comprised of 8 questions on demographic characteristics of the sample and 56 closed-ended questions. Sample items from the modified scales combined to measure employee engagement included, 'The work I do is very important to me' (e.g., meaningfulness), 'I can be myself at work' (e.g., safety), and 'At work, I have the resources to complete my job' (e.g., availability). A sample item of the Person-Organization Fit Scale is 'I feel my personality matches the 'personality' or image of the organization'. A sample item of the Affective Commitment Scale is 'I am proud to tell others I work at my

organization'. A sample item of the Modified Psychological Climate Measure is 'I rarely feel my work is taken for granted'. A sample item of the Ethical Leadership Questionnaire is 'my boss shows a strong concern for ethical and moral values'.

Research Design and Data Analysis

This study is descriptive, and the methodological approach used is a deductive one. As a deductive research approach, using a questionnaire is a useful tool of statistically estimating the response of the population from the sample. The questionnaire was distributed online, aiming to assess employees' perception of ethical leadership, as well as their engagement to their organization, affective commitment, job fit and psychological climate at work during the Greek economic crisis. The reason that an online survey was conducted was to ensure that data is obtained from a geographically dispersed sample. In this study the academic approach is used as it is more focused on assembling data at the micro level, as well as defines the concept of employee engagement, and thus, reveals a better understanding of the affected from crisis work-related attitudes that influence it.

Data analysis was carried out using descriptive statistics and inferential statistics. Correlation analysis is used in this study as the aim of the research was the examination of a possible linear association between a set of influenced from crisis organizational behaviours (i.e., employee engagement, job fit, affective commitment, psychological climate and ethical leadership). The authors were interested in the strength and direction of the possible relationships between the studied variables and thus, correlation analysis was the appropriate tool to use. The analysis of the collected responses from the questionnaire was carried out with the aid of IBM SPSS Statistics 22. Cronbach's Alpha was used to test the validity and reliability of the data obtained from the questionnaire. An Alpha coefficient of 0.946, at 0.05 level of significance, was obtained from the analysis, indicating that the questionnaire was highly reliable.

Study findings

Descriptive statistics

A first evaluation of the findings relating to employee engagement during the Greek economic crisis is not optimistic. More than 40% of the participants feel that their work demands are not consistent every day and almost 30% believe that, at work, they do not have the support they need to complete their jobs. In addition, over 60% of the responders do not find that the work they do on this job is important for them.

Psychological climate mean value is average, highlighting that employees are not very satisfied with their organizations' climate during the Greek economic crisis. The means from contribution are relatively higher when compared with the results of supportive management, recognition and challenge. Approximately 35% rarely feel that their work is taken for granted. In addition, over 50% of the respondents are careful in taking responsibility because their bosses are often critical of new ideas. Moreover, over 60% believe that their job is very challenging, and it takes all their resources to complete it. Finally, over 80% believe that doing their job well really makes a difference.

Research's findings relating to job fit reveal that a large proportion (47%) of Greek employees believes that, during the Greek economic crisis, their values match those of the organization and the current employees to it. In addition, over 45% of the representatives believe that their personality matches the "personality" or image of their organization.

The findings for affective commitment, during the Greek economic crisis, reveal that approximately 40% of the responders would be very happy to spend the rest of their career with this organization. Moreover, near 50% feel personally attached to their work organization while more than 55% are proud to tell others that they work at their organization.

In the last section of the questionnaire participants are asked to describe the degree of ethical leadership they experience from their boss. The mean value is moderate. The most indicative finding is that approximately 45% of the participants believe that their boss's actions are consistent with his/her stated values. On the contrary, 25% answered that he/she puts the needs of others above his/her own self-interest.

In conclusion, the research's findings indicate that during the Greek economic crisis, the majority of Greek employees are not engaged to their organizations, as well as they do not experience ethical leadership. The economic uncertainty and the unsteady working environment in Greece can explain this phenomenon.

Correlation analysis

Detailed correlation statistics regarding the relations among employee engagement, job fit, affective commitment, psychological climate, and ethical leadership can be found in Table 1.

Table 1: Zero-order correlation coefficients

** Correlation is significant at the 0.01 level (2-tailed). EE: employee engagement, ME: meaningfulness

Variables	EE	MEE	SEE	AEE	PC	SMPC	CPC	RPC	CHPC	JF	AC	EL
EE	-											
MEE	0.878**	-										
SEE	0.881**	0.630**	-									
AEE	0.880**	0.654**	0.736**	-								
PC	0.767**	0.645**	0.688**	0.687**	-							
SMPC	0.689**	0.532**	0.674**	0.631**	0.831**	-						
CPC	0.644**	0.565**	0.542**	0.575**	0.817**	0.490**	-					
RPC	0.616**	0.512**	0.560**	0.553**	0.840**	0.567**	0.678**	-				
CHPC	0.467**	0.507**	0.313**	0.406**	0.682**	0.409**	0.528**	0.579**	-			
JF	0.621**	0.525**	0.542**	0.567**	0.691**	0.556**	0.520**	0.656**	0.555**	-		
AC	0.676**	0.591**	0.581**	0.609**	0.746**	0.547**	0.643**	0.724**	0.526**	0.804**	-	
EL	0.616**	0.479**	0.558**	0.590**	0.664**	0.624**	0.469**	0.554**	0.420**	0.639**	0.670**	-

engagement, SE: safety engagement, AE: availability engagement, PC: psychological climate, SMPC: supportive management psychological climate, CPC: contribution psychological climate, RPC: recognition psychological climate, CHPC: challenge psychological climate, JF: person-organization fit, AC: affective commitment, EL: ethical leadership.

Correlation Analysis for Testing H1

In order to test H1, the first step was to examine employee engagement with subscales aggregated together to give a total composite score. Employee engagement was positively and significantly correlated with job fit ($r = .621, p < .001$). This means that the affected from crisis job fit negatively relates with employee engagement. Results suggested a strong (Cohen, 1988) and positive relation among the two variables, providing empirical support for H1. Employees who scored highly on employee engagement, also were more likely to report higher levels of job fit.

The second step was to examine each of the three subscales used to measure employee engagement (i.e., meaningfulness, safety and availability) for significant relationships with job fit. Meaningfulness, safety and availability subscales were positively and significantly correlated with job fit ($r = .525, p < .001$; $r = .542, p < .001$; $r = .567, p < .001$ respectively). Results suggest a strong (Cohen, 1988) positive relation between the affected from crisis job fit and each dimension of employee engagement, providing further support for H1. Employees who scored highly on each subscale of employee engagement, also were more likely to report higher levels of job fit.

Correlation Analysis for Testing H2

Employee engagement was positively and significantly correlated with affective commitment ($r = .676, p < .001$). This means that the affected from crisis affective commitment negatively relates with employee engagement. Results indicated a strong (Cohen, 1988) and positive relation among the two variables, providing empirical support for H2. Employees who scored highly on employee engagement, also were more likely to report higher levels of affective commitment.

Each subscale within employee engagement was examined for a meaningful relation with affective commitment. Meaningfulness, safety and availability subscales were positively and significantly correlated with affective commitment ($r = .591, p < .001$; $r = .581, p < .001$; $r = .609, p < .001$ respectively). Results indicate a strong (Cohen, 1988) positive relation between the affected from crisis affective commitment and the three subscales of employee engagement, providing further support for H2. Employees who scored highly on each subscale of employee engagement, also were more likely to report higher levels of affective commitment.

Correlation Analysis for Testing H3

Employee engagement was positively and significantly correlated with psychological climate ($r = .767$, $p < .001$). This means that the affected from crisis psychological climate negatively relates with employee engagement. Results suggested a strong (Cohen, 1988) and positive relation between the affected from crisis psychological climate and employee engagement, providing empirical support for H3. Employees who scored highly on employee engagement also experienced positive psychological climate.

Each of the three subscales used to measure employee engagement was examined for significant relationships with psychological climate. Meaningfulness, safety and availability subscales were positively and significantly correlated with psychological climate ($r = .645$, $p < .001$; $r = .688$, $p < .001$; $r = .687$, $p < .001$ respectively). Results suggest a strong (Cohen, 1988) positive relation between the affected from crisis psychological climate and each dimension of employee engagement, providing further support for H3. Employees who scored highly on each subscale of employee engagement, also were more likely to report higher levels of psychological climate.

Moreover, psychological climate was measured using four subscales (i.e., supportive management, contribution, challenge, and recognition). Each of the four subscales was examined for statistical significance with all three employee engagement subscales. The meaningfulness subscale was positively and significantly correlated with supportive management ($r = .532$, $p < .001$), contribution ($r = .565$, $p < .001$), challenge ($r = .507$, $p < .001$), and recognition ($r = .512$, $p < .001$). The safety subscale was positively and significantly correlated with supportive management ($r = .674$, $p < .001$), contribution ($r = .542$, $p < .001$), challenge ($r = .313$, $p < .001$), and recognition ($r = .560$, $p < .001$). The availability subscale was positively and significantly correlated with supportive management ($r = .631$, $p < .001$), contribution ($r = .575$, $p < .001$), challenge ($r = .406$, $p < .001$), and recognition ($r = .553$, $p < .001$). Finally, each of the four psychological climate subscales was positively and significantly correlated with employee engagement (supportive management, $r = .689$, $p < .001$; contribution, $r = .644$, $p < .001$; challenge, $r = .467$, $p < .001$; and recognition, $r = .616$, $p < .001$). Employees who scored highly on each subscale of psychological climate (i.e., supportive management, contribution, challenge, and recognition) also were more likely to report higher levels of employee engagement, meaningfulness, safety and availability. The effect sizes of these associations were in the medium to large range (Cohen, 1988) and thus, the research evidence supports H3.

Correlation Analysis for Testing H4

Employee engagement was positively and significantly correlated with employees' perception of ethical leadership ($r = .616$, $p < .001$). This means that the affected from crisis ethical leadership negatively relates with employee engagement. Results indicated a strong (Cohen, 1988) and positive relation among the two variables, providing empirical support for H4. Employees who scored highly on employee engagement also experienced high ethical leadership.

Additionally, each of the three subscales of employee engagement was examined for significant relationships with ethical leadership. Meaningfulness, safety and availability subscales were positively and significantly correlated with ethical leadership ($r = .479$, $p < .001$; $r = .558$, $p < .001$; $r = .590$, $p < .001$ respectively). Results suggest a medium to strong (Cohen, 1988) positive relation among the affected from crisis ethical leadership and each dimension of employee engagement, providing further support for H4. Employees who scored highly on each subscale of employee engagement, also were more likely to report higher levels of ethical leadership.

Discussion

Hypothesis 1 (H1): The affected from crisis job fit negatively relates to employee engagement.

Cooper & Antoniou (2013) suggest that employees who face an economic crisis may have lower levels of job fit. This study's findings indicate that job fit, and employee engagement relate during an economic crisis. This finding is consistent with Macey, et al. (2009) who posited that in order to develop employee engagement, individuals must have the capacity to engage in their role. Furthermore, capacity is derived from understanding one's job role and having a high degree of fit between the employee and his/her specific job responsibilities (Macey et al., 2009). Shuck et al. (2011) in their research also concluded to this finding. However, their study does not include the indirect effect of a crisis, and thus, it is difficult to compare.

Hypothesis 2 (H2): The affected from crisis affective commitment negatively relates to employee engagement.

In their study, Markovits et al. (2014) found that employees' affective commitment was strongly reduced during an economic crisis compared to employees before crisis. Shuck et al. (2011) reveal that there is a relation between affective commitment and employee engagement. Moreover, previous studies (Rhoades et al., 2007; Macey & Schneider, 2008; Macey et al., 2009; Harter et al., 2002; Schaufeli & Salavona, 2007; Maslach et al., 2001) have discussed the affective component of employee engagement in some detail. Similarly, this study reveals that affective commitment and employee engagement relate during an economic crisis. However, findings from this study are inconsistent with research by other scholars (e.g., Saks, 2006) who have studied employee engagement from a social exchange lens.

Hypothesis 3 (H3): The affected from crisis psychological climate negatively relates to employee engagement.

Cooper & Antoniou (2013) argue that the economic crisis may create a lower employee perception of psychological climate. According to the results of this study, the most significant relation among employee engagement and the other work-related variables is the one with psychological climate. The meaning of this finding is interesting: the deterioration of employees' psychological climate at work is the most important factor that affects negatively their engagement to their organizations during an economic crisis. This finding parallels with previous research (Bakker & Derks, 2010; Brown & Leigh, 1996; Hodges, 2010; Shuck et al., 2011) that has evidenced that there is a relation between psychological climate and employee engagement.

Hypothesis 4 (H4): The affected from crisis employees' perception of ethical leadership negatively relates to employee engagement.

Research (e.g., Plinio et al., 2010) has shown that leaders' perceptions are changing due to the crisis. Khuong & Yen (2014) recommended that in order to enhance employee engagement, companies should apply visionary and ethical leadership styles. The results of this research indicate that there is a relation between employees' perception of ethical leadership and employee engagement during an economic crisis. However, it is the factor with the least significance. This is an unexpected finding regarding the role leadership plays in such an unsteady and insecure environment as Greece is.

Conclusions

According to Judge & Kammeyer-Mueller (2012), work-related attitudes are very significant as an individual's job is important to his/her identity, health and evaluation of his/her life. However, all job attitudes, are unstable and can be influenced by external stimuli (i.e., social and economic changes). The ongoing economic crisis in Greece that started in 2008 has negatively influenced all aspects of Greek society and economy and has undoubtedly influenced work-related attitudes.

This study examines the relations among a number of influenced from Greek economic crisis work-related attitudes (i.e., employee engagement, job fit, affective commitment and employees' perceptions of psychological climate and ethical leadership). Correlation analysis shows that there is positive medium to strong relations between the studied research variables and employee engagement. The affected from crisis psychological climate is the factor that relates the most with employee engagement. Next are the affected from crisis affective commitment and job fit respectively. Finally, the affected from crisis ethical leadership is the one that relates the least with employee engagement. Furthermore, the findings reveal that the subscales of psychological climate (i.e., supportive management, contribution, recognition and challenge) relate to employee engagement respectively. All research hypotheses are confirmed meaning that as job fit, affective commitment, psychological climate and ethical leadership decrease, levels of employee engagement also decrease.

Moreover, an evaluation of the study's descriptive statistics findings is not optimistic. More than 40% of the participants feel that their work demands change every day and over 60% of the responders do not find that the work they do on this job is important for them. Over 50% of the respondents are careful in taking responsibility as their bosses are often critical of new ideas. However, over 80% of the responders believe that doing their job well really makes a difference, while approximately 40% would be very happy to spend the rest of their career with the organization they work. Finally, approximately 45% of the participants believe that their boss's actions are consistent with his/her stated values but, 25% answered that he/she puts the needs of others above his/her own self-interest.

Concluding, this study contributes to literature by providing evidence, through critical literature review, about the influence of crisis on a number of important organizational attitudes and by examining, through an empirical study, whether they relate to employee engagement. There is no other study to date that examines the relations among job fit, affective commitment, psychological climate and ethical leadership, as they are affected by the Greek economic crisis, with employee engagement. The fact that the study's findings reveal positive correlations among the variables studied may lead to further research into exploring the causation between them.

Limitations and directions for future research

Regarding the limitations of this study the limited time is one of them. The time period for collecting the questionnaires was two months. The second limitation is the sample size ($n=204$). The sample is clearly not representative of the total population in Greece. A small sample is clearly a limitation; however, these sample sizes are typical in this type of organizational research (Markovits et al., 2014). Moreover, a limitation of this study could be the methodology used in it as only correlation analysis and descriptive statistics take place. Another noteworthy limitation is that the approach taken in this study involved measurement of individual respondents. As a result, social desirability bias could occur as participants were asked to report their own frequency of involvement in engaging behaviours, as well as potentially sensitive information about their manager regarding his/her ethical behaviour and actions.

Future extensions of this work could be both under CM and Human Resource Management perspectives. Further evidence from other countries that face an economic crisis would help CM researchers generalize these results. Another recommendation for further research could be a longitudinal employee engagement study focusing on how engagement levels change during the time of crisis. Furthermore, researchers could test an employee disengagement model during the crisis as more than an estimated 70% of the global workforce is disengaged at work (Czarnowsky, 2008; Wagner & Harter, 2006). On the other hand, Human Resource Management researchers could examine the researched relationships with different organizational settings and for different populations (e.g., knowledge workers, skill workers) using a number of organizational variables (e.g., profit, culture, etc.). Finally, both CM and Human Resource Management researchers could test the studied variables using causation methods. It would be very interesting to identify whether there exist causal relationships between employee engagement and ethical leadership, job fit, affective commitment and psychological climate.

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Absolute globalization: The way to confront the global challenges

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Global Challenges; Adverse Impacts; Absolute Globalization; Global Integrity; Regionalism.

Abstract

The world is currently confronted with multidimensional challenges which are cause of concern for the earth's all living creations. The most remarkable challenges are global warming and global climate changes, tremendous poverty, environment pollution, warfare, antibiotic resistance, migration problems, and the spread of contagious and deadly diseases etc. The adverse effects of these are very devastating. They will affect hydrology and biology of earth, everything including economy, eco-system, and the substances. The challenging factors are interconnected, and acceleration and minimization are interlinked.

The study is to analysis the challenges the world is currently confronting with and their potential impacts, the reasons behind the challenges and the potential way to overcome the challenges. The study is based on secondary sources of data and information including scientific and academic journals, articles, research papers, books, and other relevant sources to make a deep analysis, interpretation and re-interpretation and describe and explain the issue of this proposed study.

The study recommends 'Absolute Globalization,' an integration of global economic, education, political, and social institutions where regionalism will be the cornerstone of the integration, as the way to confront the challenges.

Introduction

We are in ever-changing and ever-competitive global arena and the world is currently confronted with multidimensional challenges. The most remarkable of them are, global warming and global climate changes, global poverty, high rate of unemployment, environment pollution, warfare, antibiotic resistance, migration problems, natural disasters, ecosystem destruction, ozone depletion and the spread of contagious and deadly diseases. The challenges have been arisen from human activities and we human being are accountable for these. The impacts of the challenging factors are extensively wide range and devastating. The effects span on physical, environment, ecosystem, and human society. Draught, heavy rainfall, very devastating floods, more frequent cyclones and various natural calamities, mass poverty, water and food crisis, mass displacement and climate migration, collapse of ecosystem are the ultimate consequences. Some of the events are already on earth and creating devastation consequences on earth. Now it's time to confront the challenges before going beyond control.

The future impacts of climate change depend on how much nations reduce GHGs (Greenhouse gases) emission and adapt to climate change (Oppenheimer, M., *et al.* 2019). The logical and effective application of proportional power and tactics are also needed to address the global challenges.

But the present world is fragile and divided into many blocks. In tackling global challenges, the poor countries are less capable, in some cases completely incapable, than the rich nations. E.g., the developed world is thinking, planning, and applying green economy, green technology as well as renewable

alternative sources of energy to reduce GHGs emissions while the developing and least developed countries have neither the technology nor the resources regarding these. As a result, the entire effort is going in vain.

Collective efforts and mutual co-operation are mandatory to save the green planet and keep it remain inhabitable.

Absolute globalization, an integration of global economic, education, political, and social institutions where regionalism is the building block of the integration, is the way to confront the challenges.

Objective of the study

The study is to prescribe mechanisms to overcome the challenges the world is currently confronted with. Taking into account of the above challenges, the following tasks were solved in the research process:

To examine the challenges the world is currently confronted with and the level of threat they are imposing on the earth planet.

To diagnosis the areas they are affecting and the nature of threat they are imposing.

To detect the reasons behind the challenges and their origin.

To figure out the way to confront the challenges; and

To develop a mechanism to over the challenges.

Research Methodology

The study is 2 phases. The first stage is the diagnosis of the problems, and the second stage is finding the solutions of the problems. The study is based on secondary sources of data and information including scientific and academic journals, articles, research papers, books, and other relevant sources to make a deep analysis, interpretation, and re-interpretation, and describe and explain the issue of this proposed study. The study also includes qualitative and quantitative methods to understand the global challenges and their adverse impacts on socio-economic and environment spheres on earth. Some rudimentary aspects of quantitative tool, like economics data, are also used in the study.

Literature Review

Many surveys have been conducted globally by many scholars and scientists on global warming and environment pollution, their responsible factors, and their adverse impacts on socio-economic and environmental areas. Some of the findings are as follows:

A survey conducted by Dennis Bray and Hans Von Storch undertook over climate scientists on attitudes towards global warming and related matters in 1996. In the Bulletin of the American Meteorological Society the results were subsequently published. The paper addressed the views of climate scientists, with a response rate of 40% from a mail survey questionnaire to 1000 scientists in Germany, the United States and Canada. All the respondents (100%) accepted that global warming was occurring, the impacts are devastating, and appropriate policy and actions should be taken immediately to solve the problems.

Another study conducted by Bart Verheggen of the Netherlands Environmental agency in 2014 on 1,868 climate scientists found that, consistent with other research, the level of agreement on anthropogenic causation correlated with expertise - 90% of those surveyed with more than 10 peer-reviewed papers related to climate (just under half of survey respondents) explicitly agreed that greenhouse gases were the main cause of global warming and human activities are mainly accountable.

In an October 2011 paper published in the International Journal of Public Opinion Research from George Mason University analyzed the results of a survey of 998 scientists working in academia, government, and industry. The scientists polled were members of the American Geographical Union (AGU) or the American Meteorological Society (AMS) and listed in the 23rd edition of the American Men and Women of Society, a biographical reference work on leading American scientists, and 489 returned completed questionnaires. Of those who replied, 97% agreed that global temperatures have risen over the past century. 84% agreed that "human-induced greenhouse warming is now occurring," 5% disagreed, and 12% didn't know.

On the contrary, a 2022 study published in Environmental Science and Technology of USA found that the level of anthropogenic chemical pollution have exceeded planetary boundaries and now threaten the entire ecosystems around the world.

It has been discovered over the literatures that almost all societies have been agreed that global warming is occurring and its impacts on earth is adverse, human activities are mainly accountable for the temperature rising and immediate and effective action plans are needed to minimize the global temperature to save the green planet.

Global Challenges and Their Impacts

Global warming and its impacts

Global warming is the most discussed global issue and cause of concern for earth's all living creations. Since the pre-industrial period, Earth's global average temperature increased by about 1°C. According to the NASA (2000), since 1991 the global average temperature has been rising by 0.2°C every year. If this trend continues, then the global average temperature will rise by 2.4 to 4.6°C by 2050, which is a matter of great concern for earth's all living creatures. It will affect hydrology and biology on earth, everything including economy, ecosystem, and the substances.

Various adverse climate events including, heatwave and wildfires, draught, heavy rainfall, devastating floods, frequent cyclones and various natural calamities are the ultimate aftermaths (IPCC 2018), will be cause of massive loss of lives and resources.

According to IPCC (2007), a third of the total global land will be submerged due to rising the sea level by 2.5 mm from melting the ice of north pole, resulting a mass displacement and climate migration, mass poverty, destruction of ecosystem and ecological balance and lose of many species. According to Jackson R (2019) "a 2.5 mm sea rise is the cause of massive land losses the world is currently heading to be occurred by 2100".

Table1: Shows the Growing Number of Natural Calamities

No.	Segments	2010	2015	2020
1	Cyclone	68	95	104
2	Floods affected (million population)	188.8	27.4	34.2
3	Volcano eruption	77	88	73
4	Wildfire	71,971	61,992	58,258

Source: National Interagency Fire Centre 2021, Global Volcano Program 2022, Statista 2022

An increase in ground level temperature will reduce food grain production by 10% by 2050 when growing number of populations, projected to be 9 billion, will increase the demand for food at a significant level. Moreover, many surface water sources will be dried up and underground water level (layer) will deepen to pump water, resulting a severe food and water crisis (Rosenzweig, C., et al. (2007). Some of the events are already on earth and creating heavy consequences on earth.

Global pollution and its impacts

Environment pollution is a growing concern, and its level is growing rapidly globally. Pollution including air, water and land, is being cause of various fatal and incurable diseases not only for human beings rather for all living substances.

Plastic pollution, which has been spread from land to sea, is one of the biggest threats the world is facing today. Plastic is not perishable, which is on one hand, reducing the fertility of arable land and on the other hand is being responsible for sea and environmental pollution. Plastic fibers eaten by marine lives are ended up to the stomachs of humans and other animals, is being cause of various complex and incurable diseases that is a great threat at the entire ecosystem.

Chemical, hospital, thermal, zoogenic, and sulphuric pollutions are also remarkable threat at earth's all leaving creations.

Table 2: Shows the Growing amount of Plastic pollution from 2010-2020

Year	Amount of plastic waste (million tons)
2010	310

2015	353
2020	400

Source: OECD Global Plastics Outlook Database

A 2019 paper published in the journal of Environmental Science and Technology of USA, revealed that the level of anthropogenic chemical pollution have exceeded planetary boundaries and now threaten the entire ecosystems around the world.

Adverse air quality is killing many organisms, including humans. Ozone pollution is being cause of respiratory disease, cardiovascular disease, throat inflammation, chest pain and congestion. Water pollution is being causes of approximately 14,000 deaths per day, mostly due to contamination of drinking water by untreated sewage in developing countries.

An empirical study conducted by the Lancet Commission on Pollution and Health found that global pollution, specifically toxic air, water, soils and workplaces, kills 9 million people annually, which is triple the number of deaths caused by AIDS, tuberculosis and malaria combined, and 15 times higher than deaths caused by wars and other forms of human violence. The study concluded that "pollution is one of the greatest existential challenges of the Anthropocene era. Pollution endangers the stability of the Earth's support systems and threatens the continuing survival of human societies."

Global Poverty and illiteracy

Poverty, illiteracy, and unemployment are very remarkable challenges the world is currently confronted with, mostly the developing and list developed part of the world. Despite the progress made in reducing poverty, 9.4% of the world's total population still live on less than \$1.90/ day (World Bank 2020).

Table 3: Global poverty Rate 2010-2020

Year	(% of total population)
2010	15.7
2015	10.1
2020	9.4

Source: World Bank 2020

A World Survey of 2019 found that more than 350 million children are out of school. Of them 130 million are girls. More than 150 million children are engaged in child labour, of them 15% engaged in hazardous works (World Bank 2019).

A third of the total deaths around the world – some 18 million people/year or 50,000/day – are due to poverty-related causes. People living in developing nations, among them women and children, are overrepresented among the global poor and these effects the severe poverty. Hunger and malnutrition are the single gravest threats to the world's public health and malnutrition is by far the biggest contributor to child mortality, present in half of all cases (WHO 2019).

Almost 90% of maternal deaths during childbirth occur in Asia and sub-Saharan Africa, compared to less than 1% in the developed world (The Economist 2020). Those who live in poverty have also been shown to have a far greater likelihood of having or incurring a disability within their lifetime (BBC 27 August 2012).

A survey conducted by WHO (1998) found that there is a high risk of educational underachievement for children who are from low-income housing circumstances and among the poor, girls tend to suffer even more due to gender discrimination.

The extreme poverty keeps pressure on development plan & potentiality, infrastructure, environment, economic, education and political spheres of the host countries and around the world. So, the problem should be solved for a better world.

Reasons behind the Challenges

Human Activities: Unconsciousness and Irresponsibility

Earth atmospheric Greenhouse gases (GHG) Which include Carbon dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), Industrial gases: Hydrofluorocarbons (HFCs) Perfluorocarbons (PFCs), Sulfur hexafluoride (SF₆), Nitrogen trifluoride (NF₃) are mainly responsible for the global warming and global climate changes and we human being are accountable for this. We are combusting growing amount of fossil

fuel through industrial, economic, commercial and household activities which are emitting huge amount of GHGs in the earth atmosphere, blocking and reflecting the outgoing sunray from the space to the earth surface causing extra warming of earth surface.

A study conducted of NASA 2018 found that CO₂ produced by human activities is the largest contributor to global warming. By 2017, its concentration in the atmosphere had risen to 48% above its pre-industrial level (before 1750). Other greenhouse gases emitted by human activities are in smaller quantities.

A survey conducted by Krista Myers on 2780 Earth scientists found that earth atmospheric GHGs are mainly responsible for the global temperature rising examining highly empirical 50 research works in 2015 concluded that human activities are reason behind the climate changes.

Harris Interactive in 2007 surveyed 489 randomly selected members of either the American Meteorological Society or the American Geophysical for the Statistical Assessment Service (STATS) at George Mason University. The survey found that 97% of the respondents agreed that global temperatures have increased during the past 100 years; 84% say they personally believe human-induced warming is occurring, and 74% agree that "currently available scientific evidence" substantiates its occurrence. Only 5% believe that human activity does not contribute to greenhouse warming; 41% say they thought the effects of global warming would be near catastrophic over the next 50–100 years; 44% say said effects would be moderately dangerous; 13% saw relatively little danger; 56% say global climate change is a mature science; 39% say it is an emerging science.

However, it is clear that global warming is occurring, creating enormous challenges on earth and us human being are mainly accountable for global temperature raising due to our excessive emission of GHGs through our inconsiderable economic, commercial, industrial and day-to-day activities.

Natural Incident

Together with manmade reasons natural reasons are also accountable for gradual acceleration of earth surface temperature raising and global climate changes.

A group of astronomers of the University of Washington in 2009 discovered that the sun is being more matured, aggregating huge hydrozoan atoms, creating massive fusions and hit, causing global natural temperature raising.

Solar radiation is also accountable for the acceleration of global temperature. Scientists including Florides L. A., Christodoulides, P. and Massarottis, V., (2010) argue that the heat trapping by the CO₂ is not significant and rather it is likely that sun radiations are responsible for the global temperature rising. Again, the debate on whether the sun radiations or GHGs is responsible for the global temperature continues, recently, Herring D., (2020) refuted the claim that likeliness of sun radiation as the cause of global warming might not be true. He argues that it is possible that sun can warm the earth provided that the pattern of the solar intensity increases over the years. Likewise, the sunspot data do indicate that there was a small increase in the amount of sunlight from late 1800s to the mid-1900s which experts estimate that it could have contributed at the most up to 0.1°C of the 1.0°C (1.8°F) of warming observed since the pre-industrial period. However, there has been no significant net change in the sun's energy output from the late 1970s to the present, which is when the most rapid global warming was observed. Further, scientists rule out the significant role of sun in global warming due to the fact that if the sun energy output had intensified then it is logical to expect all the layers of earth's atmosphere to be warmed, which is not the case that has been observed. Rather, satellite and weather balloons observation showed that more warming is in the lower atmosphere (troposphere) and cooling is in the upper atmosphere (stratosphere) (Herring D., 2020). This pattern of differential warming is what is been expected due to result of increasing GHGs trapping heat.

A study conducted by German Scientist Hans Von 2011, found that natural causes, such as changes in solar radiation or volcanic activity are estimated to have contributed less than plus or minus 0.1°C to total warming between 1890 and 2020.

Natural reasons for global warming including solar radiation or volcanic activity are controversial and possess very minor impact of global warming, 0.1 of 1°C in a century and it's absorbed by the natural process and can't impose significant threats.

Way to Confront the Challenges

Collective Effort and Co-operation: A Comprehensive Way to Confront the Challenges

To overcome the challenges the world currently confronted with, collective effort and mutual co-operation is indispensable. To confront the global challenges a range of initiatives including alternative renewable source of energy, greenization of economic activities, changing food habits, infrastructure development, standard education as well as employment and opportunity creations in developing and list developed nations are indispensable. But all countries are not equally capable to implement the projects.

To deter the global warming and global climate changes, we need to reduce GHGs emission significantly through a range of initiatives including alternative renewable source of energy, greenization of economic activities, changing pattern of food habits, stopping deforestation and introduce forestation etc.

Alternative Renewable Sources of Energy

Alternative renewable sources of energy including solar power, wind power, hydroelectric power etc. is the first and most effective component to confront the global temperature raising challenge. But the developing and list developed countries neither have technology nor have resources to substitute their traditional power grids to renewable ones. Co-operation between poor and rich countries in the area is a way for a permanent and sustainable solution.

Plastic Pollution

Plastic pollution is enormous challenge not only for human beings rather for whole living creations. The danger of plastic pollution has been spread from space to surface to the beneath of the ocean and it is a growing treat. In this era of competitive global market without global effort it is impossible to confront the challenge. Plastic is an affordable and easily useable substance and its substitution with disposable substances is tough. E.g if a company use disposable substance to substitute plastic for packaging or other purposes the cost of the products will be accelerated, and the company won't sustain in the competitive global market arena. When all companies and all countries will collectively ban the plastic use imposing law or state order only then we'll get rid of the plastic danger.

Deforestation

Some people of some country are completely dependable on the resource of forest for their livelihood, and they are destroying the forest, the biodiversity, and the ecosystem in very usual ways. Without international co-operation and sustainable rehabilitation program this problem won't be solved.

Poverty Reduction

9.4% of the total world population live below the national poverty line (\$1.9/day) while 99% of the global assets is occupied by 1% people. Moreover, global military spending is 2 trillion, 2.9% of global total GDP. In 2020 US military budget was \$900 billion (3.7% of the total GDP), followed by China \$293.35 billion, Russia \$65.9 billion and India \$49.6 billion. If half of the total military budget (\$1 trillion) is spending for poverty and illiteracy reduction purpose, then the problem will be solved permanently and we will get a better world free from hunger, homeless illiteracy and poor. To solve the issue we need absolute globalization, and proper utilization of assets.

Absolute Globalization, an Effective Way for Collective Effort and Global Co-operation

'*Absolute Globalization*,' an absolute integration of global economic, education, political, and social institutions are comprehensive ways to solve the global challenges. Absolute globalization can be shaped and solve the global problems in the following ways:

Regionalism: Globalization has to be shaped with regionalism. Regionalism is the cooperation, collaboration and mobilization of policy, resource and human capital of the regional states for regional security, peace and prosperity. The regional union's policy, diplomacy, and development initiatives are more effective than that of single state or the global organizations. E.g., European Union Association Agreement is very strategic, effective, and very successful to its agendas. The regional organization will confront the global challenges through solving the regional problems and securing their own interests. Moreover, a global organization can be formed with the regional state to deal with the greater issues like global warming, global security and pollution problem to get more effective results.

Globalization of labor market and Single Global Currency: Globalization of labour market and single global currency could be a cornerstone for absolute globalization. The world commodity market has been

globalized by the name of economic globalization, but the labor market and the production facilities have not been globalized. By the name of economic globalization, the developed countries are occupying the markets of developing and least developed countries with their products and services, destroying the production facilities, industrialization and investment opportunity, diversity, and development potentiality of their developing and least developed counterparts. As a result, the developing and least developed countries are being poorer and losing their capability to fight against global challenges. Labor market globalization and Global single currency will spread the industrialization globally and minimize the wage discrimination and the cost of products and services and bring a balance between developed and developing countries to minimize the migration and poverty problem.

Borderless world: state border is the cause of conflicts including arm conflicts, resulting massive destruction of resources, lives and inhabitants. It hinders the productivity and growth not only for the conflicted parties rather for the rest of the world and cause of economic slowdown, financial crisis and inflation. It is the impediment for international cooperation and development. It prevents the free movement of goods, service, capital and people. Moreover, a large segment of arable lands is used as no man's land between the borders of many countries. The cultivation of that lands can increase the global food growth and increased the global food security.

On the contrary, the largest portion of global GDP is spent for military purpose and the most capable human resources and technologies are used in the area. In 2020 Global military spending was \$2 trillion (2.9% of global total GDP) when 9.4% of total global population live below the poverty line (World Bank 2020) and 13.7% are illiterate (UNESCO 2019).

If half of the global military budget (\$1 trillion) is spent for poverty and illiteracy reduction purpose, then the problem will be solved permanently and we will get a better world free from hunger, homeless and illiteracy and poverty and achieve better capability to confront the global challenges like global warming and pollution. To solve the issue, absolute globalization, and proper utilization of assets.

Conclusion

To confront the global challenge, we need global integrity and global co-operation. Global safety, global peace and global prosperity are our common interest. We must have common mentality, common ethics, common ideology and combined effort to protect it. An effective action plan and its proper implementation are disposable for these. Absolute globalization, an integration of global economic, education, political, and social institutions could bring a potential breakthrough. Regionalism, which is cooperation, collaboration and mobilization of policy, resource and human capital of the regional states for regional safety, security and prosperity, could be the building block for absolute globalization.

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Exploring the Effect of Business Strategy on Employees' Retention During Pandemic and After Brexit: The case Home Care Sector in UK

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Keywords

Business, Care business industry, Care Worker, Care Home, Employee Retention, UK, Case Study, Local Authorities, HR

Abstract

This research is related to the care business in Great Britain. The research question, employees' Retention in Care Business during COVID-19 and after Brexit, is very urgent and needs significant improving and finding a way to make it as high quality as it was before the pandemic and Brexit. The most vital problem the care companies are struggling with in this uncertain period – is inappropriate staffing and people retention. This article highlights the ways how the government and care companies are managing staff retention during the Pandemic and Brexit. It also explains how the data was collected, its research philosophy, approach, strategy, and methods. There are so many factors that negatively impact these two areas and need to be resolved as soon as possible. To investigate this research problem, the interview was conducted among individual employees to explore their experiences of retention and working conditions during this challenging time. The expectations are that by distributing the ideas on good practice others can learn from the experiences and that the information can be used to shape future resources.

Introduction

Care business is a massively significant segment of the labour market in the UK and around the world. Options on care services are an extremely critical decision taken by or on behalf of people who are disabled, elderly, and vulnerable. The quality and type of care have a great influence on their happiness, health, and longevity. Care assistant is one of the most rewarding jobs people can do. It can be messy, upsetting, and tiring but, there is nothing as satisfying as bringing hope to a vulnerable adult – and peace of mind to their family. Care assistants have the ability to change the lives of older and young people who are physically disabled or people who may be mentally impaired. Through the UK every single day care assistants go into their communities to provide home and live-in care services. "To care for those who once cared for us is one of the highest honours." (Tia Walker). They support their service users with a lot of everyday chores such as going shopping, light house duties, laundry, and assisting with correspondence and individual affairs. In general, the service that care workers deliver involves helping people with their personal care requests. (Ali,2019).

COVID-19 infection was announced as a pandemic in March 2020 by the World Health Organization (WHO). This virus has affected millions of families with important social consequences, including the care industry. Certainly, it has destructively affected the Health Care services of numerous countries from all over the Earth. National restrictions were put in place and an urgent action strategy has been developed to react to the pandemic of COVID-19 with the Primary Health Care Corporation (PHCC). (Ali,2019).

Everyone is facing continuous personal and career challenges. A massive amount of people has lost their positions and workplaces. Since the emergence of the COVID-19 pandemic, the impact on the labour market began to be observed. Pinsker, (2020) highlighted two different experiences paramount during the COVID-19 pandemic. The first is industries able to work from home but that experience high levels of stress related to childcare, fear of leaving home, and other associated concerns. (Ali,2019).

The second is businesses unable to work from home, who are placing themselves at increased risk carrying on their services. So, Health and Care Businesses belong to this group. Care is not something that can be provided working from home. The Health Care Department and NHS kept delivering their permanent responsibilities all over the world. They were placing their lives in danger for the protection of others' lives and providing them essential support and care. Such businesses are considered at threat of

unemployment, underemployment, physical, and mental health, and relationship difficulties connected to work. Throughout the COVID-19 pandemic, care home workers have shown unbelievable efforts to provide proper help and maintain a safe environment for those who are extremely at risk from it.

On the other hand, there is another circumstance such as Brexit that has a negative impact on the care business in particular. On 31 December 2020, the UK stopped following EU rules, with new arrangements agreed for travel, trade, immigration, and security cooperation coming into force. It meant all the EU care workers who were not integrated and set up as UK residents had to go back to their countries as they lost their right to live and work in the UK. And it became more difficult for new EU citizens to come to the UK and start their careers as care workers here. It led to high turnover and understaffing in this branch of industry.

There is a real and continuing challenge for companies in the care industry to employ, develop and retain the right staff to perform high-standard, person-centred care and support services. And there is no single resolution to this challenge, during COVID-19 and Brexit circumstances across the country.

Literature Review

How business has changed after COVID-19, and Brexit?

Big amount of people with special needs who are receiving care services have been informed their care cannot be fully achieved for reason of staff shortages in the UK and all over the world. The messages were sent out stating that the care providers may have to adjust their present care packages. People with serious disabilities and critical diseases have already lost their care assistants. COVID-19 and leaving of EU employees because of Brexit had caused staffing deficiencies all over the UK (Robertson,2020).

The most recent report from the Health and Social Care Board estimated that 7.3% of vacancies in social care were unoccupied for the period of 2019–2020, equal to around 112,000 positions (CEP Election Analysis, 2020).

The social care industry in the UK is currently in a vulnerable situation. More and more care workers are needed every day to manage a high volume of demand. High-level turnover and staff shortage have led to employees leaving their care positions. This identifies that lots of people who require support are at risk of missing the assistance they urgently need.

According to Robertson (2020), care workers are leaving their positions in adult social care because of a combination of various reasons:

Low salaries

How much does a care worker earn? The national average salary for a care worker is £21,116 in the United Kingdom. Salary assessment is based on 1,585 salaries submitted anonymously to Glassdoor by Care Worker employees.

Liberal Democrat leader said, “I often hear stories of staff leaving the social care sector to go work for Amazon because the conditions and pay are better.” (BBC Breakfast, 2021). Care workers are considered less satisfied with life, and struggle financially in comparison with the general population(Robertson, 2020).

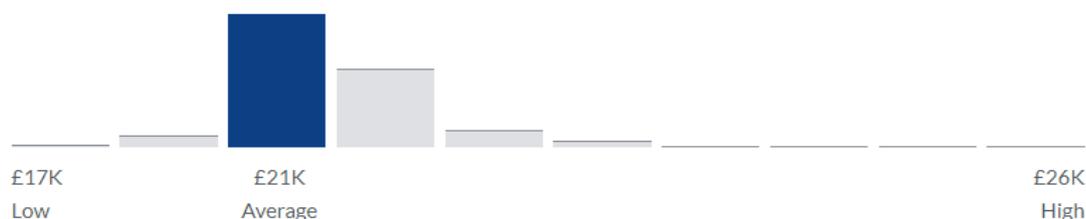


Figure 1 Care Worker Salary (Glassdoor, 2022)

Staff burnout

Nearly, one in three care workers are suffering from burnout at the workplace. This causes harm to their own well-being and also, leads to the deterioration of qualitative factors such as emotional tiredness,

scepticism and depersonalization disorder, decreased professional effectiveness, and personal achievement (De Hert, 2020).

Care workers appear to be at actual risk for burnout. This has substantial destructive personal and professional consequences which are: poorer service user fulfilment, diminished quality of care, and even medical errors.

In the table below it can be seen how the care workers' professional burnout is growing year by year.

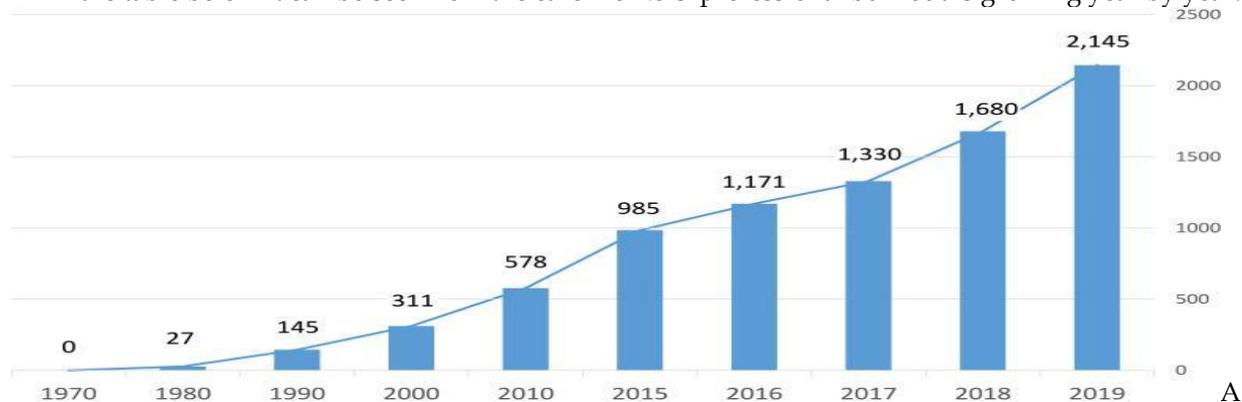


Figure 2 Care Worker Burnout (Healthcare Worker Fitness, 2021)

Stricter immigration laws

There is a constant need for care assistant staff and plenty of these positions are covered by EU residents. London in particular relies on EU nationals to fill up the skills gap. Unfortunately, care workers do not meet the criteria of skilled workers. Care providers required a sponsor license to recruit their staff from the EU, alongside hiring people from countries elsewhere. (De Hert, 2020).

This makes recruitment in the care segment more difficult. People from the EU have to apply for a work visa in order to come here and meet the criteria of the points system. This automatically means that people with special needs will not be able to get the home care they require. (De Hert, 2020).

Compulsory vaccination

The government aims to guarantee that care and residential homes are as safe as possible for the staff members and the service users they look after. They consider that the best way to achieve that is to make sure that everybody is fully vaccinated, and it is a mandatory condition to continue working in the care industry. Since 11 November 2021, all care home workers, needed to be fully vaccinated unless they are exempt under the regulations. (Department of Health and Social Care, 2022). As the statistic shows tens of thousands of residential care assistants have lost their work positions since November 2021, because of this reason when vaccination became a condition of deployment within CQC-registered care homes in England (Beech et al. 2019).

Poorer working benefit

Carer workers are struggling to keep balance their caring responsibilities with their work duties. Care companies could provide extra support and encourage their employees at their workplaces. Not many performing care assistants believe their employer-company is carer-friendly. And a lot of them are failing to discuss their caring role with management at their workplace, in general, because they understand nothing will change if they do.

Offering carers support benefits, work shift flexibility and individual facilities would benefit both employee and employer – for example, by enhancing the well-being of workers, converting to cutting absence, and improving retention for the industry. “I tend to think the support is not as good as I expect. Managers are under huge pressure because of the shortage of staff but in many cases, they also lack the goodwill to act when necessary and how would be correct. More could be done regarding rotas to cut down on unnecessary tension and pressure at workplaces. Not enough mental support was provided when I felt

depressed, and I didn't get an extra day off when I really needed it. I felt forced to work extra hours." (Care worker, 6).

"Carers are coming and going, permanent change of staff is very stressful for the customers. Unfortunately, serious actions are not yet taken. I think that office people should be more open and smiley and ready to help." (Care worker 5).

Pressure

For a care assistant dealing with pressure is a usual everyday circumstance that gives new challenges and approaches to work. Care staff is appreciated all over the world for the service they deliver, the compassion, and the optimistic effect they have on people's lives. But, nevertheless, all that positivity in the job often brings a high-level pressured environment. The standard daily routine of a care worker very often rotates around providing emotional support to service users, helping them with domestic duties, and delivering wellbeing-based care to enhance the condition of those they work with. It can still be a stressful job whether the care worker has just started the career or has been doing it for many years. "I was scared myself and straggling to carry my care duties. My mental health was very unstable because of the uncertainty and stress I got every day. I felt I cannot make myself leave my house. But at the same time, I had a clear understanding that my clients are waiting for me, and I don't have any moral right to let them down." (Care worker 7).

There are no two similar days and there are a number of varying situations which, obviously, make the job of the care assistant stressful. Unexpected difficulties take place on a regular basis and there is no such point as a standard workload. This circumstance raises the pressure on the position as care staff may have a strategy they are using during the working day - but it can be changed easily by emergency situations. That makes it complicated for the business to get and keep their employees and to reduce people turnover (Beech et al. 2019)

How does Brexit affect the UK care industry?

From 1 January 2021, the transition period for Britain's exit from the European Union is over. Travel, work, and trade have become different, and many sectors have been already affected, including Health and Social Care.

Brexit is not helping with the staffing situation. It has brought new challenges to the care sector. (Brexit and the social care staffing crisis, 2019).

There is no form of Brexit that will benefit the NHS, Social Care, Public Health, or life sciences sector - only different levels of destruction. This, altogether with the broader economic effect of Brexit, will cause a very hard impact on the most disadvantaged communities in society. (BMJ Opinion, 2018).

In the UK, a little over 5% of the regulated nursing profession, around 9% of doctors, 16% of dentists, and 5% of allied health professionals were from inside the EEA. Not only are they a sizeable component of the workforce, but the patterns of their numbers and their composition by occupation and geography have also changed rapidly since the 2016 Brexit referendum.

While the contribution of EEA nationals to the NHS is important, it is arguably even more so in social care services across the UK. In 2016, EEA nationals made up 5.4% of the workforce, though in absolute terms their number grew by 68%, or 30,600 individuals, since 2011. (National Institute of Economic and Social Research (NIESR), 2018).

Under a new rule recommended by the Government's Migration Advisory Committee, carer staff is considered 'low skilled EU workers and do not get privileged entrance to the UK workforce market after they leave the EU.

Most of the carers are not from the UK. The care structure in the UK is in not a suitable position to resist the deficit of EU workers, right now or in the future. If care workers based in the EU are no longer allowed to work as live-in carers, care homes, or hospitals in the UK, care-providing companies will find it difficult to face growing demand.

The existing crisis has also dropped a light on the circumstance that Britain is not generating or is failing to encourage much of its labour force to join the care business. General observations of low incomes and long hours are absolutely not inspiring people to submit their applications for the numerous vacant

positions offered. Therefore, the obvious conclusion is that these roles have to be filled by qualified migrants from the EU or beyond. The full impact of Brexit on the UK's Health and Care System will be not known for at least a couple of years.

Methodology

An inductive approach was applied to this research question. It started with the observations of the working environment of the care company and then the theories were proposed towards the end of the process as a result of observations.

This approach intends to produce meanings from the data set collected in order to detect patterns and relationships to build a theory. It begins with detailed observations of the care company as a holistic object, which moves towards more generalizations and ideas as people retention during COVID- 19 and Brexit.

Observing the changes that were caused by two unfavourable factors COVID-19 and Brexit, the negative impact on people retention in the care industry that led to the deterioration of the quality of provided service by government and care providers was identified.

During the topic investigation many issues, difficulties, and challenges that business is going through were discovered and found. Also, there were some ways of improving and returning back to the normal working process recommended. Interviewing care workers from one of the company branches helped the current situation. Alongside it was mentioned what has been already done by the government and local authorities and what else could be useful to do to overcome the problems and return the care industry to its normal life.

Data collection techniques and sources

In this project primary data collection, and interview, was chosen to collect information from the participants, and care workers, to get their opinion and vision of the research question and cover the subject of interest. Also, secondary data collection was used, and it has been taken from official government sites, journal articles, and interviews of some care workers who are discussing the same research question and sharing their experiences and opinions in terms of it. This data collection saved time and resources and made the process faster.

The respondents of the research are adult social care employees on the basis of one of the leading care companies in London and the South part of England. In total it was received 10 responses to the face-to-face interview distributed to adult social care workers. The company name is anonymous as requested by the branch manager. The company represents private care sector organizations based on Local Authorities which is a council in one of the boroughs in London. Main service work in adult residential care, adult domiciliary care, and adult community care. This is a medium establishment (50-249 people). The care Quality Commission (CQC) rate is established as "Good."

Sampling methods

Quota sampling technique of selecting population elements on the basis of predetermined characteristics was used: participants' availability, willingness to take part in the interview, and speaking out for the care business situation during a pandemic and after Brexit. Also, it was a convenient sampling technique, and participants were selected from the researcher's workplace. That made the selection process simple as the researcher knows the participants well, and also could predict their reaction to the request to take part in the interview. These samplings were chosen because they are the least expensive, least time-consuming, and most convenient. But also, it is not free of selection bias and has no assurance. (Novikov and Novikov,2013).

Research instrument

Face-to-face interview between the researcher and a participant was held on different days and depended on when the participants were on their usual shifts. The interview was taken during their break time. It was audio recorded with the consent of the participant. The non-standardized, semi-structured, face-to-face interview took place on a basis of a care company with care workers who work there. Qualitative content analysis was used to determine the presence of the research problem on a descriptive

level while representing the main issue of the research problem. The aim of this method was to find out how the care workers see the problem of a research question, how their work conditions have changed during the COVID-19 period and after Brexit has started, and what factors make them leave their places and look for better jobs and what can be done to improve the situation? (Saunders et al, 2019).

Findings and Discussion

After the investigation, the research questions, and interviewing care workers some findings emerged on what can be done and what has been already done by care providers to come back to the initial care business service as it was before COVID-19 and Brexit.

Significant reforms are essential to support the sector to continue at present volume points as well as to produce the expected care providers' performance at a high-quality care level.

Because the population continues to age, the need for care will rise and the forms of necessary service will differ. The Office for National Statistics, 2018 predicts a 36% growth in persons aged 85+ between 2015 and 2025, from 1.5 million to 2 million. This is expected to lead to a substantial increase in demand for care home services.

Improved planning

There is a necessary need to make efficient and productive planning of future capability and opportunities in care companies. As real-life shows, this is not completely effective at present days. Local Authorities have to structure plans to focus on local circumstances and demands. To help LAs to complete this mission, there is a need for measures and actions to support and guide them, providing proof of care service and facility requirements now and for the future. The appropriate guidance, relevant information, and coordination are the best way to supply this support through independent sources such as care companies, residential homes, and care staff.

The right to information and support

Local authorities should have a duty to deliver information to care companies and care workers to encourage them in their caring responsibilities. They should make sure carer workers have open access to customized guidance about balancing work, education, or training with caring, including related benefits and well-being advice. "Staff meetings and training should be onboarding regularly; new regulations have to be sent by email to every carer to keep us informed." (Care worker 4).

Offices should make this information accessible to their staff about the best ways in which they can support employees who have the necessity to manage caring duties with work. Information for care staff has to be updated according to the news, coming events, and changes in the industry and also, cover important information such as the variety of support and guidance recommendations on how to access public and community support for care staff, beneficial additional sources of materials and information such as carer groups and forums, information discussion with carers their practices and opportunities as well as supplying them with written materials, sharing information and instructions that covers their personal requests, especially at the moment when they desperately need it and that will help them to plan and prepare. "Because of the threat of viral infection COVID-19, wearing of PPE to every customer flat, changing aprons, gloves as usual, additionally wearing of face masks become compulsory. Washing and disinfecting hands after every procedure becomes vital. All staff has to be informed about the danger, about how to protect ourselves and our customers. State of our customers' health has to be continuously updated by the members of the office and care team within active communication with their families." (Care worker 7).

Work, education, and training

Good practices always include discussing further career development, training, workshops, growing professional skills and knowledge possibly with position promotion, and improving personal characteristics. Employers have to investigate the opportunities available within the business and provide their staff support they need to remain in, start or return to work and strive for self-fulfilment in the care field. "I am an ambitious person, so I would feel more inspired and motivated if I get a chance to be

promoted within my company. To receive more training, I need for my further growing and developing would be very helpful for me.” (Care worker 1). They have to make sure that they give their employees a chance to carry out carers' assessments and show they have the necessary skills, knowledge, and understanding of potential opportunities for returning to or remaining in work, education, and training.

Social and community support for care workers

Care companies and Local Authorities should guarantee care staff is kept regularly informed and updated about available community facilities and other sources of support and information and how to access them, for instance: local care assistant support services, self-help groups, community and faith groups, specialist benefits, financial and legal advice, financial support, advice about self-care, where to find reliable information about the health condition of the person they are caring for. New kinds of support became available for care workers due to COVID-19 challenges and information about them should be easily accessed on official sites and at workplaces. “We are rewarded with discount card (Blue Light Card) and LifeWorks program and many other incentives that make us feel appreciated and special.”

(Care worker 2).

Psychological and emotional support for carers

In case a care worker has an identified mental health problem, psychoanalyst and counselling involvements should be considered as a good way to help. “We had to work more and cover more visits because of understaffing on the shift. Shifts became more intense, extra things to do and remember. We didn't spend enough time with our service users. We became extremely busy as my colleagues tested positive, more work at the same time, sometimes we didn't have a break, more stress, and pressure.” (Care worker 3).

It's essential to care for staff and to take into account their duties outside of the workplace, as these factors can affect their performance at work. Ensuring that all members of the staff are physically and mentally suitable for work gets as important as providing a positive atmosphere and workplace culture.

Valuing and appreciating staff, investing in education and training, embedding the company's standards, and honouring successes and achievements - all run a long route to improving staff retention. “Staff should be treated with respect and appreciation. This is a very hard job that involves a lot of physical and emotional contribution from the workers, and this should be appreciated by the employers and management.” (Care worker 8).

Involving staff members in decision making and giving them salary above the local minimum (paying competitively) plus ensuring that they feel respected for the amount of work they are doing, also has a positive impact on retention level and keep loyal and caring staff.

Offering incentives for existing employees who introduce potential new employees would be a good motivating factor to stay in the company and recommend others to join the business. Hiring current employees by referring a friend can be a valuable way to follow because it is a bigger possibility of attracting people with the right values and behaviours. The existing staff already know the organization's policy and fundamental principles and can share these with the people they refer.

Hiring the right people

Finding and recruiting people with the right skills, values, and talent to work in social care is a very important factor that impacts people retention in the future. Of course, the recruitment process isn't just about how to attract potential candidates to apply for vacancies. It's also about ensuring that the right people are employed, especially during the COVID-19 period, care business was the most popular and available to work. “Most of the care workers are not from England. Since Brexit started European citizens came back to their countries as they need visas and permission to work in the UK. Care companies are not ready to provide sponsorship for EU carers and started to lose their workers. A lot of care positions became available and inappropriate staffing became an urgent problem in the UK. The rest of the carers can't cope with the double pressure and quit their jobs as well. We had times where there were half of the shift carers available.” (Care worker 9).

What should employers look for when selecting new staff and how do ensure you employ the best staff? Various potential selection strategies should be taken into consideration such as values and behaviours, prior relevant work experience, and qualifications, recognizing the importance of investing in 'raw talent,' based on the principles of values-based recruitment

Increasing salaries

To pay above the National Living Wage, overtime payments, childcare costs, professional health, wellbeing actions, motivation and retention expenses would be very encouraging factors to reduce people turnover and to attract new talents into a business. Relevant and impactful reward choices and increased engagement directly boost productivity levels across the organization. "They urgently need to increase salary, to recognize care assistants as a part of NHS and to admit social care workers are just as important as NHS staff and should have the same benefits as the NHS do." (Care worker 5).

Conclusion

The care industry as an entire unit is one of the fastest developing sectors in the UK that has lots of care operators, care providers, and investors looking to grow their care companies. Robust demand from an aging population is expected to aid industry growth over the next five years. (Hallidays, 2021). However, the COVID-19 pandemic is expected to continue to slow down the industry, and staff shortages are estimated to be worsened over the upcoming period by the end of the free movement of people between the UK and EU.

The Government made a commitment to offering employee recruitment and retention funding, supporting Local Authorities and care suppliers to recruit and retain a necessary quantity of care staff during the winter period, and offering progress and development to existing employees' volume as well as inspiring new and returning candidates. (Autumn and Winter Plan, 2021)

Actions have to be taken to make sure that EU care workers are able to come to work in the UK for senior and disabled people who depend on them. EU citizens at present make up 104,000 of those involved in care in the UK, and that amount is increasing. (Age UK, 2021). The majority of them work in London and provide 'live-in care' which helps senior people to remain in their own properties. As a result, the care business area requires a well-designed plan for how to deal with employment and retention – involving new talent and extra resources.

The UK Department of Health and Social Care declared plans to develop the Health and Care visa scheme to recruit care workers for the NHS and care sector. It is created to make it easier and quicker for the best global health professionals to work in the NHS and social care sector. (Health and Social Care Department, 2020). Secretary of State for Health and Social Care Matt Hancock said: "Our health and care system has always had a proud tradition of welcoming overseas staff to work, train and live in the UK, and I'm proud that the NHS is a destination of choice for talented people from around the world." (Conservatives News, 2020). Thousands of extra care workers could be hired to improve the number of adult social care workers, care assistants, and home care workers from everywhere in the world with little or no qualified training and experience.

Care workers are considered key workers, and their job and services can't be performed remotely. COVID-19 has brought negative changes in the caring process in terms of emotional, mental, and quality aspects and the industry still needs time to be fully recovered in order to function and deliver its service and responsibilities as it was before the pandemic. A lot of actions were taken to come back to normal life and a lot has to be taken to achieve the main goal of caring for and looking after the most vulnerable population of the country.

Research limitations

The main limitation of this research is that the data collected from interviews might not provide an accurate reflection of the entire population as participants were selected according to the researcher's opinion and personal observation. There are some criteria that were applied to the interviewees during the selection process. They are personal characteristics, attitudes towards work, relationships with colleagues, ability to work in a team, and many others. So, it can't be excluded that the interviewer wasn't always

objective and wasn't influenced by any personal attitudes and opinions during the selection process. Also, it can't be 100% sure that the information collected is truthful and not exaggerated due to some unfriendly atmosphere and personal reasons at the workplace (Novikov and Novikov, 2013)

The care company where the interview was held preferred to remain anonymous. That is why the researcher had to be very careful not to mention any features that would reveal the company's name and break the anonymous policy.

Some of the interview questions were cut off the list as management considered them not secure enough and the information according to their opinion was private and confidential.

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Impact of Brexit policy on textile/clothing and footwear UK imports

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Keywords

Brexit, Clothing, Footwear, Negotiation, Textile, Uncertainty.

Abstract

On 23 June 2016, the UK voted to leave the EU, (Brexit). A four year and six-month period of uncertainty ensued before Article 50 was activated. Eventually the UK-EU Trade and Cooperation Agreement (TCA) came into force on 1 May 2021. The UK retail sector, in particular the textile/clothing and footwear, relies on high levels of international importation to the UK. As the negotiations between the UK and the EU were undertaken, key elements featured in the development of the new Brexit policy. This paper examines the impact on the textile/clothing and footwear UK importation trade in relation to three of these key elements:-

June 23, 2016, UK voted to leave the EU.

29 March 2017 Article 50 was triggered.

October 2019 Article 50 extended.

The data was modelled using the main five UK import partners in relation to textile/clothing and footwear from the WITS (World Integrated Trade Solution) database and the UK Office of National Statistics annual and monthly data sets, in relation to the three key elements of policy. The study provided an initial insight into the impact of policy decision making during the Brexit process. The findings show that Key elements of Brexit policy making had a negative impact on importation trade in relation to Textile/Clothing and Footwear. Further research is recommended to establish the long-term effects of Brexit policy on the UK retail economy as a whole, over the next five years. This to be extended to the export of textile/clothing and footwear from the UK to EU and Non-EU trading partners.

Introduction

The United Kingdom (UK) voted on the 23 June 2016 to leave the European Union (EU). This was a significant event, the UK joined the EU in 1973, leaving would be very complex, as the UK had implemented EU law and trade policy for 43 years. Both the UK and the EU will have to negotiate a way to trade and how to apply custom borders. Bloom et al (2019).

The outcome was unexpected and resulted in the Prime Minister David Cameron resigning the next morning. Theresa May became the UK Prime Minister from 13 July 2016 to 24 July 2019, when Boris Johnson replaced Theresa May to "Get Brexit Done". UK businesses found it very difficult to be effective due to the uncertainty on how the UK was going to leave the EU, negotiations were lengthy and unresolved for over four years. Theresa May on 29 March 2017 presented the EU with a signed Article 50 which triggered a 2-year window of negotiations between the UK and the EU; on how the UK was going to withdraw from the EU. This was extended twice with the UK finally leaving the EU on 31 January 2020, with a further transitional period until 31 December 2020. Walker (2021).

During this period of consultation UK businesses were having to deal with a high level of uncertainty, making strategic planning difficult. Bloom et al (2019). The retail sector was concerned about the application of the EU customs union and the import tariffs. Lydgate, et al., (2016). A hard Brexit was considered which meant that the UK tariff system would have to adopt World Trade Organisation (WTO) tariff rules. This would increase the level of tariffs from 0 to 12 percent for some clothing, while the UK negotiated its own Free Trade Agreements (FTA) with their importation partners. English (2018), Ries et al., (2017). The paper will investigate how this period of uncertainty affected the level of UK importation trade of textiles/ clothing and footwear.

Literature Review

The EU would have to negotiate a new trade policy with the UK. The uncertainty on how the UK was going to trade with the EU after December 2020 lasted for a period of four years and six months with many different policy options being considered over this time. The following are examples of trade policy issues which were uncertain during this time period.

To Remain part of the European Customs Union, (a free Customs Market), Lydgate and Winters, (2019). There was considerable speculation as to whether the UK could remain in the EU customs union or should the UK have a clean break from the EU altogether. This was a hot issue over the four years negotiation period of Brexit. The key elements were that by remaining in the customs union the rules of origin would not have to be introduced when trading between the EU and the UK. However, if the UK breaks away from the EU customs union, then it would result in expensive and lengthy customs procedures for the movement of goods, delaying goods in transit. Thus, resulting in a reduction of trade between the UK and the EU. Further, the UK will not be in control of its own negotiations re trade agreements with third countries, as this would remain with the EU. Lydgate, et al., (2016).

By becoming a member of the European Free Trade Association (EFTA), the UK could use Norway as a guide and remain part of the Single Market as a member of the European Economic Area. Bilateral agreement would be made between the UK and the EU, which currently the EU has with Switzerland and Canada; Swati et al (2017). These options became known as a Soft Brexit approach. Ries et al., (2017).

World Trade Organisation terms would govern the UK trade and EU trade, including most-favoured-nation tariffs. Swati et al (2017). This became known as a Hard Brexit option. Ries et al., (2017). If this was to be the case, then in 2016 there was prediction that tariffs would rise considerably both for imports and exports between the UK and its trading partners. Egypt being one of the highest at 30 percent and Israel the lowest under MFN at 5 percent. Holmes, Rollo, and Winters, (2016). The uncertainty on how the UK was going to resolve the EU trade arrangement was still apparent. This continued after 27 April 2021 when the European Parliament approved the EU-UK Trade and Cooperation Agreement. Bennett and Vines (2022).

Any one of the above scenarios would have a considerable impact on how the UK approached its trade policy. The UK will have to organise how the free trade agreements (FTA), would be negotiated both for the EU and Non-EU trade partners. One possibility was for the EU to allow the UK to continue to use the free trade agreements organised by the EU and have a time period to adopt these agreements into UK law. Belke et al (2017). In 2015 the EU had 51 countries with which they have negotiated FTA covering 14 percent of UK exports and 11 percent of UK imports. There was speculation that the UK would find it difficult to negotiate FTAs with so many countries and would have to adopt the WTO tariffs. Graziano, Handley and Limao (2021).

Uncertainty of trade agreement with EU

During the process of Brexit from 23 June 2016 to 31 December 2020 there was uncertainty on how the UK was going to approach its trade policy. In particular how trade would flow between the EU and the UK: Could there be a Free Trade Agreement? (FTA). English (2018). It was predicted that this period of uncertainty would affect the UK economy due a lack of confidence of consumers/investors and a reduction of aggregate demand. Chang (2018). However, there is evidence that Brexit-related uncertainty was impacting trade before the referendum. Graziano, Handley and Limao (2021).

English (2018), Chang (2018), discussed at the time the situation of the UK not being able to negotiate a FTA with the EU and therefore the UK would have to pay WTO tariff rates on EU imports, which would increase on average 5.5 percent on the cost of goods coming into the UK. Due to the increase of administration on checks/inspection of goods coming into the UK. The UK would have to set tariffs rates for approx. 9000-10,000 products. Impact on imports to the UK from EU countries directly after the referendum shows that there was a downturn of exports to the UK. Fernandes and Winters (2021) findings showed Portugal reduced exports to the UK by 5 to 7 percent following the vote. Martin, Martinez and Mejean (2019) highlight a 1.2 percent decrease in new importer/exporters trade between UK importers and French Exporters.

Eventually a Trade and Cooperation Agreement was signed on 31 December 2020, applying provisionally as of 1 January 2021 and came into force on 1 May 2021. It outlines the preferential arrangements of trade between the EU and the UK. European Commission (2020). Dhingra and Sampson,

(2022), highlighted that the TCA activated customs checks, rules of origin requirements and regulatory compliance for both the UK and EU borders, on goods transferring between the UK and EU could affect trade. This will increase trade costs and possible time lags. English (2018).

UK Free Trade Agreements with non-EU countries.

Hantzsche, Kara and Young (2019), discussed the ability for the UK to be able to negotiate its own trade deals with third-party countries thus enabling the UK to gain the benefit of trade with countries which currently do not have a trade agreement with the EU, for example New Zealand and Australia. There was concern as to how the UK was going to approach this. The UK could negotiate with the EU for it to carry over some of the current FTAs to the UK and businesses would continue as normal. However, the EU might not agree, with the UK having to re-negotiate the agreements thus taking time to put in place. English (2018).

Brexit Timeline

Over the time period between the referendum on 23 June 2016 and the final exit from the EU on 31 December 2020 there were many significant elements which featured within the final trade free agreement signed on 27 April 2021, when the European Parliament approved the EU-UK Trade and Cooperation Agreement.

Timeline referencing:-

UK Referendum to leave the EU 23 June 2016.

Theresa May (UK Prime Minister) triggered Article 50 for the UK to leave the EU, 29 March 2017. This starts the two-year countdown for the UK to leave the EU.

Article 50 was extended until 30 June 2019.

Article 50 extended again until 31 October 2019.

Article 50 extended again until 31 January 2020.

At 11pm on 31 January 2020, the UK left the EU and entered a transition period.

At 11pm on 31 December 2020, the transition period ended, and the United Kingdom left the EU single market and customs union. Walker (2021).

During the time lag of the trigger of Article 50 and when the UK left the EU on 31 December 2020 there was speculation on how the UK was going to respond. One proposal was for the UK to adopt the WTO (World Trade Organisation) tariff system. This would mean that the WTO's Most Favoured Nation (MFN) rules would apply. But the UK would have to impede EU's common external tariffs without any discrimination. However, this requires negotiation with the WTO members for consent. At the time when the UK triggered Article 50 the UK did not have its own tariff system, the impact of which could lead to legal action and trade disputes. Chang (2018).

This paper will investigate if the uncertainty of the Brexit policy process had any impact on the importation to the UK of Textile/clothing and Footwear for the five main UK import partners.

Research Methodology

From the referendum vote that took place on the 23 June 2016 until the UK left the EU on the 31 December 2020 there was uncertainty as to how the Brexit policy was going to be developed and its impact on trade, both with the EU and Non-EU countries.

The textile/clothing and footwear industries were investigated during the period of uncertainty 2016-2020. Due to concern that UK retailers would have to pay the full import duty on items per the World Trade Organisation minimum duty implementation if the free trade agreements could not be continued after the UK left the EU. English (2018). The five main importing partners to the UK of textile/clothing and footwear, allocated per the World Bank, WITS (World Integrated Trade Solution) database. See tables 1 to 4. The data for the main importing partners data are selected from Office for National Statistics, (2021) and (2022), UK imports database.

Brexit Process

The following timeline was used to highlight key elements of policy changes.

The data was modelled to key points in the Brexit process. The main elements of the process were as follows:-

23 June 2016 referendum.

29 March 2017 Article 50 was triggered, two-year countdown started.

10 April 2019 Article 50 was extended to 31 October 2019.

28 October 2019, Article 50 was extended to 31 January 2020.

31 January 2020 United Kingdom left the EU and entered a transition period.

Transition period ended 31 December 2020 UK left the EU single market and customs union.

Key dates during this period were:-

June 23, 2016, UK voted to leave the EU.

29 March 2017 Article 50 was triggered.

October 2019 Article 50 extended.

These key dates were used to assess the impact on UK imports of goods from the EU and Non-EU countries. Walker (2021). The data was reviewed to see if these key elements had any impact on the level of trade. Monthly UK importation data was evaluated over a 10-year period before the key dates of policy change to show the level of trade before the referendum as was taken up to December 2019. However, for key policy point three, October 2019 Article 50 extended, monthly data was used from October 2019 to February 2020, due to the short time period before COVID 19 started to affect trade in March 2020.

Note:- The UK left the EU on the 31 January 2020 and the transition period finished on the 31 December 2021. However, it is too soon for data to be analysed to establish the effects of the UK leaving the EU. COVID 19 will have an impact on the data between 2020 and 2021 so need to evaluate data from 2022 onwards to be able to assess the true impact of Brexit to the UK imports.

Findings/Results

Top Five Textile/Clothing and Footwear importing partners to the UK

2015 was selected as it relates to a time period before Brexit was adopted in June 2016 with 2019 UK importing partners' trade being the final data showing (2020 not yet available within the World Integrated Trade Solution (WITS) database).

The main UK import partners in 2015 before in relation to textile and clothing were:-

Table 1	Trade Value	%
	US\$ '000	of UK trade
China	8,868,523.78	25.51
Bangladesh	3,310,266.71	9.52
Turkey	2,707,610.11	7.79
India	2,430,494.00	6.99
Italy	1,776,040.77	5.11
183 partners	15,663,750.50	45.08
	34,756,685.90	100

Source:- Worldbank (2019).

The five main trading partners, China, Bangladesh, Turkey, India and Italy were investigated to see if key points of the Brexit decision making process had any effect on the importation trade of clothing.

This process was repeated to find the main UK import partners in 2019 to enable comparison to see if there has been any significant change in levels of trade over the Brexit policy period.

Table 2 showed there was no change in main import partners in 2019 of textile/clothing:-

Table 2	Trade Value	%
	US\$ '000	of UK trade
China	6,440,933.55	19.78
Turkey	2,329,830.88	7.16
Italy	2,218,221.72	6.81
India	1,983,129.12	6.09
Bangladesh	3,729,889.19	11.46
183 partners	15,809,768.01	48.70
	32,511,772.47	100

Source:- Worldbank (2019).

Over the Brexit policy making time period there is a significant drop of 6.45 percent importation of textile and clothing into the UK of \$2,244,913.43. This suggests that the uncertainty of Brexit policy over this time period may have had an impact on the importation to the UK of textile/clothing.

The main UK import partners in 2015 in relation to footwear were:-

Table 3	Trade Value	%	%
	US\$ '000	of UK imports	Country exports
China	2,842,164.96	35.02	4.51
Vietnam	716,913.35	8.83	14.69
Italy	681,621.84	8.40	2.72
Netherlands	554,256.89	6.83	1.17
Belgium	549,652.35	6.77	1.75
183 partners	276,584.83	34.15	
	5,621,194.22	100	

Source:- Worldbank (2019).

The five main trading partners were investigated to see if key points of Brexit decision making impacted importation of footwear. This process was repeated for 2019 to enable comparison to establish any significant change in levels of trade over the Brexit policy making period. The main UK import partners in 2019 in relation to footwear were:-

Table 4	Trade Value	%	%
	US\$ '000	of UK imports	Country exports
China	2,078,262.92	26.58	3.17
Netherlands	844,076.05	10.79	1.57
Italy	838,283.64	10.72	3.19
Belgium	657,233.47	8.4	2.04
Germany	657,057.59	8.4	0.77
183 partners	2,738,236.27	35.11	
	7,813,149.94	100	

Source:- Worldbank (2019).

Note:- Vietnam was the 2nd largest import partner to the UK in 2015, by 2019 Vietnam reduced its market share to 9.89 percentage USD \$595,435.66, ranked at 6th UK import footwear listing.

Between the two data points of 2015 and 2019 the importation of footwear shows a significant increase of \$2,191,955.72, being 39 percent. On this initial data instead of the Brexit uncertainty affecting importation of footwear, the UK has increased its trade.

Individual Countries

Figures 1 and 2 show the levels of imports from each of the main five UK import partners starting in the month time period the policy data point was activated, covering annual periods from 2006 to 2020. The timeline started with 2006, ten years before Brexit providing a continuity point before the Brexit uncertainty.

Key Policy Point one:- June 23, 2016, UK voted to leave the EU

June 2020 was excluded from the overall movement analytical investigation due to the impact of COVID 19, which large quantities of PPE imported from China impacting 2020 results.

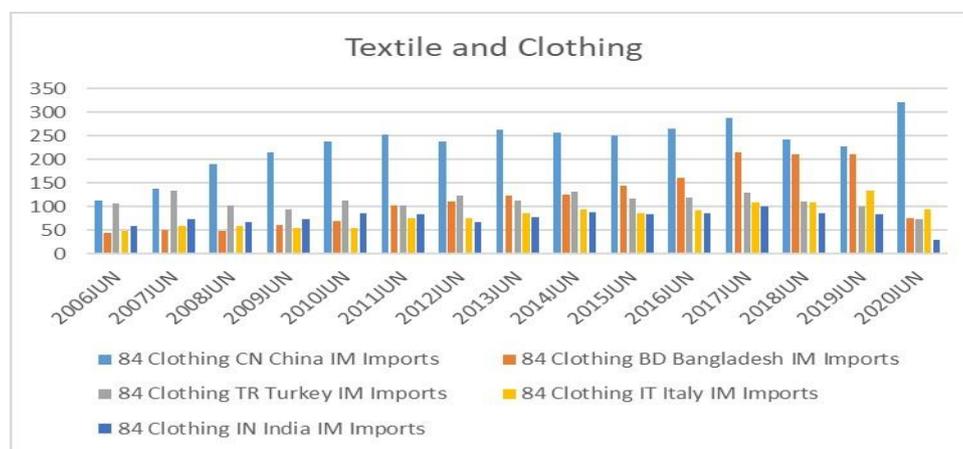


Figure 1 Textile and Clothing

Source:- (Office for National Statistics, (2021)/(2022)

The movement of trade from June 2016 to June 2017 shows an increase of 16.46 percent. However, it decreased by 9.87 percent from June 2017 to June 2018. This decrease continues June 2018 to June 2019 by a further 0.31 percent, showing there is impact on UK importation trade for textile/clothing.

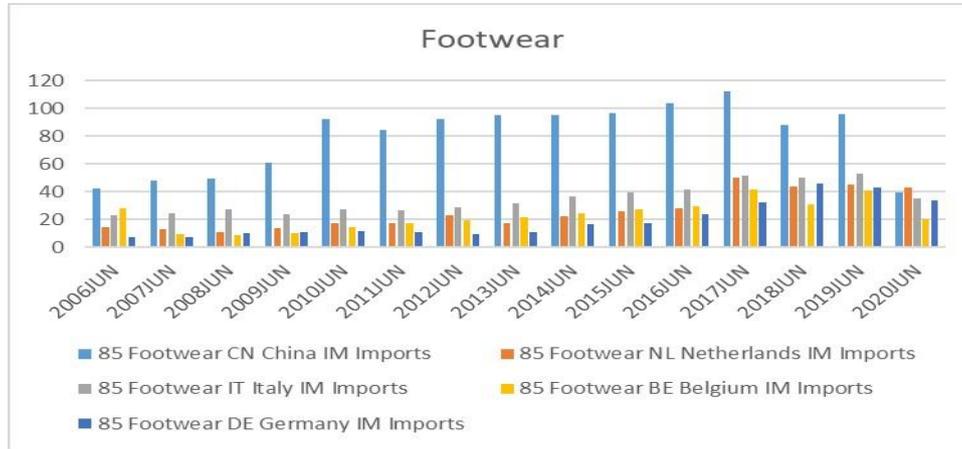


Figure 2 Footwear

Source:- (Office for National Statistics, (2021)/(2022)

Movement of trade in footwear from June 2016 to June 2017 increased by 10.60 percent but the level of trade decreased by 10.61 percent from June 2017 to June 2018. However, the levels increased over June 2018 to June 2019 by 7.83 percent.

The formula used to calculate correlation was the Pearson product moment correlation coefficient:-

$$r = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sqrt{\sum(x - \bar{x})^2 \sum(y - \bar{y})^2}}$$

Where x is the movement of UK importation of textile/clothing from June 2016 - June 2019 and y is the movement of UK importation of footwear from June 2016 - June 2019, r = the coefficient of correlation between the importation of textile/clothing and footwear into the UK over the time period 2016- 2019. The correlation was strong at 0.74.

Key Policy Point Two:- 29 March 2017 Article 50 was triggered.

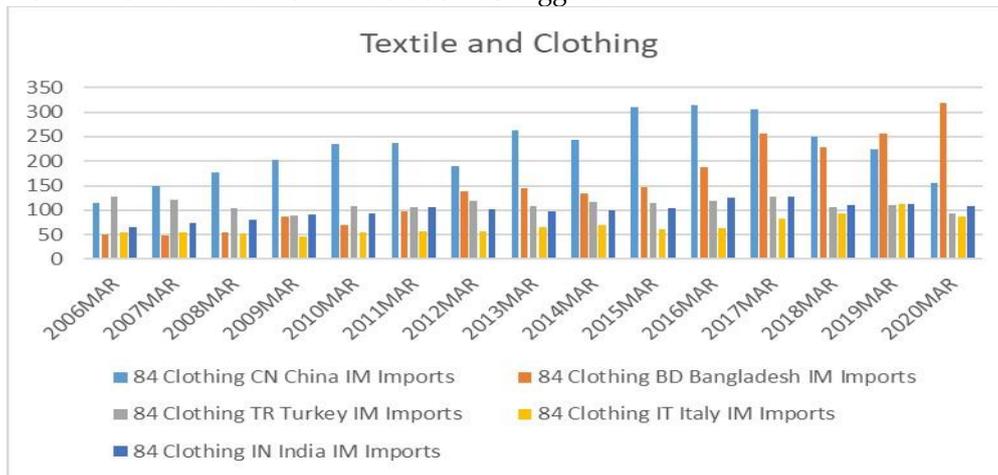


Figure 3 Textile/Clothing

Source:- (Office for National Statistics, (2021)/(2022)

Within figure 3 importation of textiles and clothing rose with each of the five main importing countries totalling 11.13 percent between March 2016 and March 2017. However, March 2018, 12 months after Article 50 being triggered, importation of textiles and clothing decreased over all by 12.52 percent. March 2019 showed some recovery of imports as they increased by 3.89 percent. This shows the impact between the trigger of article 50 and importation of textile and clothing goods.

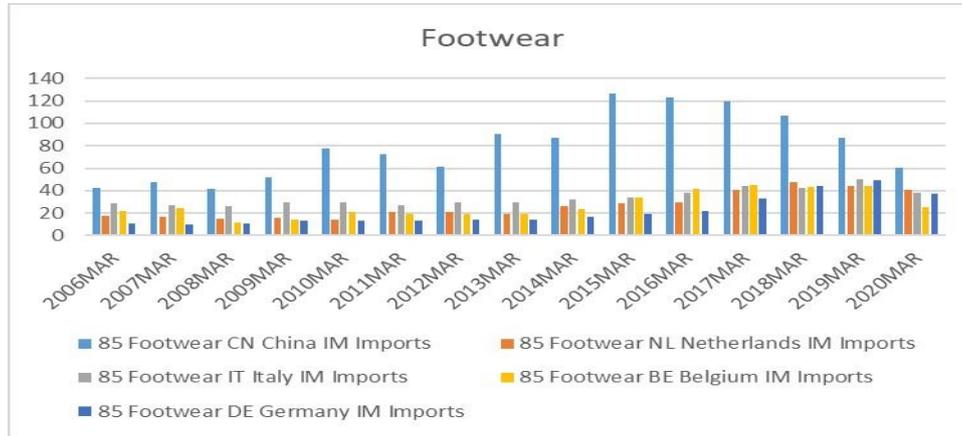


Figure 4 Footwear

Source:- (Office for National Statistics, (2021)/(2022)

On reviewing the footwear data, the movement percent fell from 11.48 percent increase of imports between 2016-2017 to 0.45 percent between March 2017 and March 2018. However, there was an increase in import trade from March 2018 to March 2019 of 2.86 percent. The Pearson Product Moment correlation coefficient formula was implemented to measure the correlation between the UK movement of import trade for textile/clothing and footwear:-

Where x = UK import movement of trade from 2017 to 2019 for Textile/clothing and y = UK import movement of trade for footwear r = the coefficient of correlation between the UK importation of textile/clothing and footwear over the time period 2016-2019.

There is a strong correlation between the textile/clothing and footwear for March 2017 to March 2019 of 0.86. Suggesting that the trigger of Article 50 did have an impact on the UK import trade for Textile/clothing and Footwear.

Key Policy Point Three:- October 2019 Article 50 extended.

October 2019 article 50 came into place. This is very recent, and data is limited due to COVID starting to take effect in March 2020. To measure the impact the data has been analysed on a month-by-month basis from October 2019 to February 2020. Further research will need to be undertaken when the trade data becomes available from 2022, as the global supply chains become more sustainable after COVID 19.

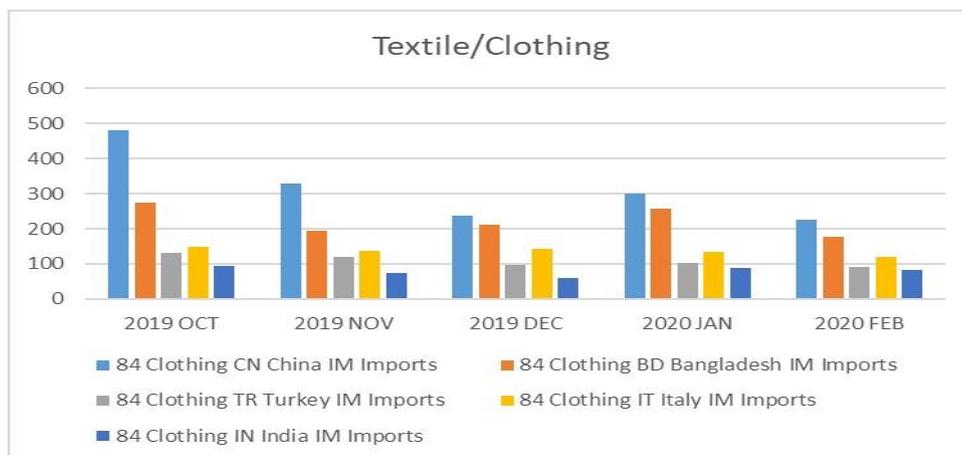


Figure 5 Textile/Clothing

Source:- (Office for National Statistics, (2021)/(2022))

Textile/clothing UK imports trade was investigated to see if there was any impact of the Key Policy Point Three; UK extended article 50 to 31 January 2020, in October 2019. After this change in Brexit policy, November 2019 saw a drop in UK import trade across all five countries of 24.4 percent. This continued into December 2019 with a further decrease of 12.2 percent. However, in January 2020 there was a slight increase of UK imports of textile/clothing of 1.7 percent, only to fall by 20.1 percent in February 2020 after the UK article 50 ended.



Figure 6 Footwear

Source:- (Office for National Statistics, (2021)/(2022))

The UK importation of footwear was also investigated to see if there was any impact on the level of trade due to the change of Brexit policy of extending the UK/EU article 50 in October 2019 to 31 January 2020. There was a decrease of UK importation of footwear in November 2019 of 16.2 percent. This continued in December 2019 with a further fall of 10.7 percent. However, in January 2020 there was an increase of 17.5 percent. February 2020 shows a fall of 7.1 percent, this was after 31 January when the UK broke away from the EU. Incorporating the Pearson Product Moment Correlation coefficient formula:-

Where x = UK import movement of trade from October 2019 to February 2020 for Textile/clothing and y = UK import movement of trade from October 2019 to February 2020 for footwear r = the coefficient of correlation between the UK importation of textile/clothing and footwear over the time period October 2019 to February 2020. There is a strong correlation between the textile/clothing and footwear for October 2019 to February 2020 of 0.68.

Discussion and Conclusion

Tables 1 and 2 show the level of UK importation trade for textile/clothing. By comparing the levels of trade before Brexit at 2015, after the referendum and during the Brexit consultation period 2019, there was a drop of 6.45 percent on overall importation of textile/clothing. This does correlate with the suggestion that Brexit Policy uncertainty did have an impact on import trade. Chang (2018), English (2018). However, table 3 and 4 show that UK footwear importation resulted in an increase of trade between 2015 and 2019 of 39 percent. Interestingly, China's imports fell by 8.44 percent while Italy, Netherlands and Belgium importation to the UK rose collectively by 7.91 percent. Germany increased its trade in 2019. European partners were increasing their trade with the UK within footwear. More research is required into the data to gain further understanding of these results.

Looking at the detailed analysis of the textile/clothing and footwear in relation to the three key policy points:-

Key Policy Point One:- 23 June 2016 UK Voted to lead the EU

Figures 1 and 2 show the annual movement for June of UK importation trade for textile/clothing and footwear. While there was an increase of UK import trade between 2016 and 2017, there was a decrease of UK import trade of 9.87 percent for 2017-2018 and this continued in 2019 with a further decrease of 0.31

percent. The import trade of footwear increased between 2016 and 2017 of 10.60 percent but this also fell by 10.61, 2017-2018, but it rose by 7.83 percent in 2019. This suggests that the textile/clothing sector was affected by the referendum vote more than the footwear sector. A strong correlation of the results between the Textile/clothing and footwear of 0.74 shows how interlinked the sectors are.

Key Policy Point Two:- 29 March 2017 Article 50 was triggered

Figures 3 and 4 show the annual movement for March of the UK importation trade for textile/clothing and footwear. There was a decrease of 12.52 percent in relation to textile/clothing and footwear only increased by 0.45 percent compared to 11.48 percent increase 2016-2017. However, both textiles/clothing and footwear increased by 3.89 percent and 2.86 percent respectively, again a strong correlation of 0.86 infers the positive relationship between textile/clothing and footwear sectors, March 2017- March 2019.

Key Policy Point Three:- October 2019 Article 50 extended.

Figures 5 and 6 show the monthly movement of the level of UK importation for textile/clothing and footwear from October 2019 to February 2020. Both the textile/clothing and footwear sectors showed a decrease in trade of 24.4 percent and 16.2 percent in November 2019 and a further decrease in December 2019 of 12.2 and 10.7 percent before a slight increase in January 2020 of 1.7 percent for textile/clothing and a large increase of 17.5 percent for footwear. However, after article 50 was activated on 31 January 2020 both sectors decreased in February 2020 with textile/clothing having a significant drop of 20.1 percent and footwear 7.1 percent. There was a strong correlation between textile/clothing and footwear trade of 0.68.

Research Implications

The research clearly shows that Brexit policy decision making between 2016 and 2021 provided a negative impact to the volume of importation of Textile/Clothing and Footwear. Further research is recommended to establish the long-term effects of Brexit policy on the UK retail economy as a whole, over the next five years. To be extended to the export of textile/clothing and footwear between EU and Non-EU trading partners.

Conclusion

Overall, the initial research has shown that there has been a negative impact in relation to the three key policy points on the UK importation of textile/clothing and footwear. This suggests that import trade was affected by uncertainty as suggested by English (2018)/Chang 2018. Due to COVID 19 occurring in March 2020 this has made it difficult to ascertain the immediate impact in relation to the UK leaving in January 2020. However, the findings clearly allow scope for further research within this area and to extend to the export trade of Textile/Clothing and Footwear to EU and Non-EU trading partners.

Limitations/Direction for future research

Key policy point three; October 2019 article 50 came into place. This is very recent, and data is limited due to COVID starting to take effect in March 2020. Therefore, to measure the impact the data has been analysed on a month-by-month basis from October 2019 to February 2020. Further research will need to be undertaken when trade data becomes available from 2022 and global supply chains are more sustainable after COVID 19.

Further research undertaken over the next five years to ascertain the effect of Brexit on UK importation trade as the global supply chain recovers from COVID 19.

Further research is required to establish the increase of the European partners importation into the UK of footwear from 2015 to 2019.

Further investigation of the importation of textile/clothing and footwear from EU-27 countries during the period of policy uncertainty between the UK and the EU.

Future research is required to investigate if Brexit key policy points have affected the exporting partnerships of the UK including the EU and Non-EU partners, within the textile/clothing and footwear sectors.

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Assessing the digital readiness of a company: An exploratory qualitative study

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Keywords

Digitization, Digital readiness, Digital transformation, Digital maturity

Abstract

Digital transformation integrates digital technology that helps companies transform and streamline day-to-day procedures. It creates an environment and culture that requires proactive participation throughout the organization. It allows companies to position themselves better and compete in a constantly evolving, everchanging market space and aids them in unlocking operational efficiency and enhancing productivity.

The pandemic has pushed us towards a world where digital transformation is paramount. It has given many organizations a harsh wake-up call and has forced businesses to adopt a more agile and flexible path. Many organizations have automated their operations to better serve customers and protect employees. As a result, businesses must maintain their passion for advancing their digital skills to stay up with the new reality and gain a comprehensive grasp of the digital transformation area.

The objective of this study was to conduct an exploratory qualitative study with 27 executives from different industries to understand why companies are moving towards digital transformation, the challenges faced by them, and what is the meaning of a digitally ready company. The grounded theory approach was used to derive themes, define parameters and create a digital maturity graph to classify organizations according to their digital readiness. The originality of the paper lies in that it contributes to theory as the Grant Thornton model is used to create the digital maturity index. The practical contribution is that by using this matrix, the organizations can create a roadmap to embark on their digital transformation journey.

Introduction

Digital transformation is a worldwide topical issue, of major importance for organizations in all sectors, as it changes customer relationships, internal processes, and value creation (Soussi 2020). According to Holmström et al (2015) digital technology is increasingly important in achieving business goals, and its pervasive effects have resulted in the radical restructuring of entire industries. Consequently, managers' extensive interest in handling digital innovation is not surprising. Recent research has illustrated how digital technologies give rise to a vast potential for product and service innovation that is difficult to control and predict. According to a survey of 4000 global business leaders - the Dell's Digital Transformation Index (2020), 8 out of 10 organizations realized the need to fast-track their digital transformation journeys in 2020. Additionally, 89% of companies felt the need to invest in a more agile and scalable IT environment during the pandemic. Therefore, firms need dynamic tools to support themselves in managing the new types of digital innovation processes that emerge. According to Abdelaal et al. 2018 companies are increasingly introducing the concept of digital transformation. Digital transformation comprises the use of new technologies (e.g., advanced analytics, machine learning, artificial intelligence applications, the Internet of Things) and the changes in the critical business elements, including strategy, business model, business processes, organizational structures, and organizational culture. If managed successfully, it can optimize business processes and better corporate performance. It also triggers industry disruption by introducing new business models and the development of digitized products and services. Digitization – the continuing convergence of the real and the virtual worlds will be the main driver of innovation and change in all sectors of our economy (Kagermann and Henning 2015). The exponentially growing amount of data and the convergence of different affordable technologies that came along with the definite establishment of information and communication technology are transforming all areas

of the economy. Internet of Things, Data, and Services plays a vital role in mastering the energy transformation, developing sustainable mobility in logistics, providing enhanced health care, and securing a competitive position for the leading manufacturing industry. The two key instruments for enhanced value creation in the age of Industries 4.0 are platform-based cooperation and a dual innovation strategy enhanced by digital transformation." It is therefore pertinent to develop a matrix for the organizations which can be used to measure their digital maturity (Verhoef, 2021).

Literature Review

Digital Transformation and Digital Maturity

This is the era of businesses that follow the policy of 'digital-first'. To establish themselves as a business on the path to a digital transformation, the companies need to define their digital vision. Digital transformation is a process where digital technologies create disruptions, trigger strategic responses from organizations for managing the structural changes and create value for stakeholders (Vial, 2021). Digital transformation is a key requirement in this modern age where technology continues to reshape lives. Businesses across all industries are streamlining and accelerating daily processes using cutting-edge tools and third-party services (Soussi, 2020). Digitally mature, companies invest heavily in digital tools and focus on deriving and creating business value through continuous operation optimization and digitization. Businesses integrate digitization into core operations using a digital maturity framework and redefine their entire organizational structure to shoot up productivity, enhance their performance and generate results that position them as an industry leader. The digital maturity of a company is measured by its ability to engage changing customer needs continually and thrive in the current market scenario of digital leaders disrupting the market with their continuous technological advancement. Businesses with a higher maturity index on the scale continually outperform those with a lower maturity level financially.

Types of Digital Transformation

Matt et al (2015) talk about four essential dimensions of digital transformation which are the use of technologies, changes in value creation, structural changes, and value creation. Currently, four main types of digital transformations taking place in the industry are:

Process Transformation - Using technologies such as data, analytics, APIs, and machine learning to reshape business processes to reduce costs, and cycle times and improve quality. For example - Dominos with its app which allows delivery from anywhere via any medium

Business model transformation - Aiming at the basic building blocks at the core foundation of deliverable value in a specific industry to disrupt traditional business models like Netflix replacing and reinventing the video rental services of Blockbuster

Domain transformation - Unlocking new business potential and growth opportunities by blurring the boundaries of the industry via redefinition of products and services as Amazon with its AWS and Amazon Fresh and Alexa

Cultural/Organization transformation - Introduction of different business ecosystems, continuous learning and testing, development of new processes, an open mindset, quality leadership, and hiring of new talent and competencies by companies that start recognizing that digital transformation is a long-term, flexible journey like Experian with its agile development and collaborative workflows.

Recent digital trends across different industries

Organizations are trying to reinvent themselves and adopt different strategies to manage the new normal (Ebert and Tavernier, 2021). Following are the recent trends across different industries:

Data Analytics: Since the dawn of the digital world, data has been an untapped goldmine, and it has remained one of the top digital transformation themes ever since. Business executives from many industries are attempting to tap into this goldmine to realize its full potential and build a data-driven digital transformation plan. In this cut-throat digital economy, data, coupled with artificial intelligence and machine learning, will be mission-critical capabilities for enterprises to survive.

Customer Data Platforms: Customers are getting smarter. Those halcyon days when businesses invested in single data management software, which usually was a customer relationship manager tool, are long past. However, platforms like CRM, CMS, and DXP fail to go in-depth and miss some essential digital signals provided by customers. Customer Data Platform is a unified customer database that aids enterprises in unified

data collecting, big data processing, consolidation, activation, and execution via DevOps from online and offline channels.

Connected Clouds: Rather than a transformative digital trend, this is more of continued evolution in the field of cloud computing. Organizations now realize that going all public clouds, private clouds, or data centers is not a great choice. A single type becomes quite restrictive, and needs vary over time. SaaS (Software as a Service) transformation is helping quite a few business leaders achieve their digital transformation goals. The cloud services are smooth, highly secure, and streamlined.

Artificial Intelligence: The transformation to a completely autonomous artificial intelligence (AI) firm is part of a larger digital trend. This trend provides the door for businesses to include AI in their digital transformation strategy. All the fundamental systems, processes, and business strategies will be redesigned with AI and its capabilities. Humans and computers will collaborate to capture data-driven insights in a fully autonomous AI business. According to a report, 57.7% of healthcare executives plan to invest in AI and machine learning to accelerate their digital transformation.

Internet of Things (IoT): Technology innovation has become one of the keys to competitive differentiation in today's unpredictable digital landscape. Business leaders plan to accelerate their technology budget to boost digital transformation services. IoT has increased relevance in the post-pandemic world, especially in the healthcare and manufacturing industry. 84% of healthcare industry leaders plan to leverage IoT to deliver a connected experience to their patients.

Connected Supply Chains: The expectations and behaviors of the customers are changing dramatically. They are becoming more intelligent and challenging the established supply chain leading organizations. Today, they research products they intend to buy across multiple channels, where they expect transparency around order delivery. However, they are also concerned about supply chain sustainability. This idea is why the 'connected supply chain' is one of the key digital transformation trends. A connected supply chain allows companies to reach full real-time visibility by building an integrated organizational view.

Customer-centric vision: All the digitization trends aim to improve customer experiences. Customers' evolving demands and expectations create challenges and opportunities for businesses. Businesses seek to know their target customers better and curate experiences driven by developing and emerging technologies. It is prime time for all companies to redefine, revisit, and reprioritize their CX-related technology current based on their target customer expectations.

Contactless Solution and Digital Payments: Since the pandemic, there has been an increment in contactless payments, which seem to stay in action for a more extended period given the ease, comfort, and safety it has ensured in the audience. Contactless payments have become an imminent money transaction method for businesses and people. It enables them to drive their financial services and ensure safety and money accountability in the long term. COVID-19 has maximized the use of contactless payments. Online transactions have now expanded their roots to all prominent sectors. Contactless payments via electronic wallets have allowed people to make payments seamlessly, quickly and quite conveniently.

Building blocks of digital transformation

Digital transformation is about change in technology, data, process, or organization. The diagram below shows the major blocks of a digital transformation, and using these blocks, we will build a journey roadmap. Executives are focusing on the three main pillars: the customer experience, business models, and operational processes (Verhoef, 2021). Digital capability is paramount to digital transformation and cutting across all these pillars is an essential enabler for transformations in all three areas. We will explore each of these blocks in detail and look at some examples to understand them better.

Customer experience

Customer understanding - Companies are leveraging prior system investments to gain a comprehensive understanding of the geographies they operate in. Exploring the market sentiments. Keeping in touch with consumers via different social media platforms allows them to see what makes their customers happy and what does not. They build chat forums and communities to regularly engage with customers, improve brand loyalty and increase trust. Many businesses are developing and investing in analytics capabilities and understanding their customer better. They also conduct real-time experiments to influence

customer behavior. For example, Swiggy and Zomato send special offers to their users around the time they have previously ordered the most to entice them to use their application to order food.

Top-line growth - Companies are transforming and reinventing the sales experience by leveraging digital technologies to enhance in-person sales conversations. By looking at their customer's purchasing data, companies can find patterns using predictive analysis and thus offer tailor-made deals and personalized packages and experiences for example streamlining shopping processes on e-commerce sites, setting up pop-up stores like those of Nykaa and OnePlus, and allowing consumers to choose their convenient delivery times.

Customer touchpoints - Digital initiatives can significantly improve customer service. Customers gain trust when problems are resolved quickly and transparently. Many businesses particularly are making tremendous progress in integrating multichannel operations. Several companies use digital tools to provide self-service. These tools save customers time and aid in reducing the company budget. Customers can access account information through traditional mobile apps, and media subscribers can have electronic rather than paper subscriptions. To improve customer touchpoints, many companies are now offering their services via apps. For example, Airbnb via mobile geolocation services sends recommendations for activities to do nearby, tourist attractions, and events happening in that area to provide a joyful holiday experience.

Operational Process

Process Digitization - Automation of core processes to make them efficient and scalable has been quite the norm. To gain additional benefits, some businesses are going beyond simple automation. Company employees can thus shift their focus to more relevant strategic tasks. Researchers can concentrate highly on innovation, creativity, and data mining. This trend of gaining benefits beyond efficiency is being extended by new technologies. By using a digital design process, an apparel company was able to eliminate the need for physical prototypes to be shipped thus causing a 30% reduction in the lifecycle of product development.

Worker Enablement - In many businesses, once-advanced technologies like Zoom, Jam Board, Miro, Google Meet, and Teams have become the part and parcel of office life. Employees can work from anywhere and collaborate with anyone, anywhere in the world. Digital transformation has replaced limited one-way vertical communication with wide vertical and horizontal communication channels. At scale, CXOs can engage in two-way communication which was previously tedious. Employees can collaborate in previously unimaginable ways more efficiently and quickly.

Performance Management - Several executives emphasized the importance of performance transparency. When it comes to making decisions, most CEOs claim to be better informed. Executives can make decisions based on facts rather than assumptions thanks to transactional systems, which provide more information about products, regions, and customers. Digital transformation is evolving the strategic decision-making process in addition to making people more informed. Top executives at a medical device company expanded strategic planning sessions from 12 to over 300 senior executives using the company's existing collaboration tools. This allowed for greater participation in the process and, once decisions were made, better adoption of the vision.

Business Models

Digitally modified businesses - Companies wrap traditional products in digital or service wrappers. They're figuring out how to combine physical and digital offerings and use digital to share content across organizational boundaries. As executives across companies say, "It's not about changing technology; it's about changing the way people do business." A grocery store franchise is staying true to its business model while using digital technology to create a new value business proposition, resulting in 20% new clients and a 13 percent increase in average consumption for existing customers.

New digital business - Digital products that complement traditional products are being introduced by new digital businesses. Other businesses are reshaping their business models by reshaping their boundaries with digital. The Delhi Airport, for example, aspires to be the owner of a traveler's entire journey. It will provide travelers with a seamless multichannel experience.

Digital globalization - MNCs across the world are transforming into genuinely global corporations. Thanks to digital technology and integrated information, businesses are not only gaining global synergies but also maintaining local responsiveness. They are becoming more centralized and decentralized at the same time. International shared services help finance, HR, and even core functions like manufacturing and design while

boosting productivity and reducing risk. They go so far as to promote global adaptability. A single manufacturer can easily respond to interruptions or excess demand.

Digital capabilities

All three pillars of customer experience, operational processes, and business model transformation are affected by digital capabilities. A digital platform that includes both integrated data and processes is the most basic technology requirement for digital transformation. Large, successful businesses traditionally have a silo model with each business unit having its own set of systems, data items, and business processes. It can be challenging to get everyone on the same page about customers or products. Only when there is a shared vision can processes be optimized. A major reason for web-based businesses gaining an upper hand is because they are using data analytics and providing customized services to users much more quickly than traditional businesses through their unified data and processes. Companies that have their data integrated can use more powerful analytics strategies. Companies that have a strong IT/business relationship are well-positioned to begin the digital transformation process. The strong relationship helps create new digital units and their governance mechanisms.

Research Methodology

The objective of the study was to understand why different companies are moving towards digital transformation, the challenges faced by them, and what is their meaning of a digitally ready company. The themes from the research helped us to decide the parameters to assess the digital readiness of a company based on what employees and executives think makes a company digitally ready. This further helped us create a digital maturity index that can work as a simple roadmap for companies to start their digital transformation journey. An exploratory qualitative approach was adopted for an in-depth contextual study of the phenomenon. The qualitative research design provided an opportunity to get the insights required for a detailed understanding (Morrow and Smith, 2000). The data for the study was collected using a convenient sampling method from 27 executives from different industries like IT, hospitality, FMCG, Telecom, and automotive. The respondents were mostly professionals with 12 to 23 years of experience, and they were at the prime of their professional careers. Out of 27 respondents, most people were at the senior level in their firms and spearheading quite a few projects. We were also able to get some responses from people at the executive level leading entire business units. Following is the profile of the respondents (Table I and Table II):

Table I: Profiling of respondents as per industry type:

S. No.	Industry	No. of respondents
1.	Information Technology	9
3.	FMCG	7
5.	Telecom	4
6.	Automotive	4
7.	Hospitality	3

Table II: Years of experience & gender:

S. No.	Years of Experience	Male	Female
1.	12-15 years	5	4
2.	15-20 years	9	5
3.	20 years & above	2	2

We asked a couple of initial open-ended questions like "What does digital transformation mean to you?" "Is there a focus on digital transformation in the company?" to understand the awareness of the employees and find some common themes? A semi-structured questionnaire was used to interview the participants. This permitted flexibility for the emergence of new ideas. Each interview lasted for a duration

of about thirty to forty- five minutes. The recursive process of data collection and analysis was followed till no new themes emerged, i.e., till theoretical saturation.

Data Analysis

The data was analyzed using the three-stage approach as per Miles Huberman's framework (1994):

Stage 1 Data Reduction & Data Display

Stage 2 Generating codes & themes

Stage 3 Concluding & inferences from generated themes

The first step involved the identification of relevant text from the transcribed data. Next, the data was organized into meaningful groups for each candidate. After all the data was coded and collated, data sets were compared to identify a common pattern which was further analyzed to arrive at themes. It was ensured that there is no overlap and adequate support for each theme. Some of the themes identified in interviews were merged to arrive at nonrepetitive, coherent descriptions. Post this, the final analysis was completed to come to logical conclusions that the data indicated through the themes.

Findings

Why Digital Transformation - Through the eyes of the workforce

In this digital era, technology is not something that companies can just opt for at any time, but rather a fundamental and core business strategy that must be deeply rooted and integrated into every part of an organization across all business units. Globalization, the need for innovation and mergers and acquisitions with digitally ready companies, growth opportunities in new markets, and new compliance regulations are some top drivers for companies embarking on their journey of digital transformation. Businesses are demanding more agile, connected and hybrid IT services with fast networking capability to enrich their services and product offerings without compromising on the user experience. Gong and Ribiere (2021) say in a world of continuous changes, digital transformation has become imperative for companies.

Based on the results of the discussion we found the drivers for companies to transform and revolutionize the customer experience, derive more data-based insights, increase collaboration between employees, teams, and departments, and enhance agility and innovation. (Vial, 2021).

Challenges in digital transformation

Digital transformation (DT) restructures your organization's architecture and ensures the development of more long-term solutions with optimal technological efficiency. The main agenda of starting the digital transformation journey is to use cutting-edge technologies and cloud-based capabilities to reinforce existing legacy systems (Soussi 2020). "It takes existing legacy applications and processes to the next level and assists in discovering new ways of working and value channels. Digital transformation, on the other hand, is not as straightforward as we might think," said one executive. While the majority recognizes the need, the substantial roadblocks in their path dictate the transformation's success and speed. Identifying the major roadblocks, the following are the responses from business leaders and employees. We will be exploring these challenges in detail

Organizational Culture

Employees may be resistant to change if businesses fail to communicate the importance of digital transformation. Employees, overall, are content with their horizons and do not want to venture into another orbit until they see how it will improve their work lives. Because of the significant organizational impact, a deep-rooted strategy that integrates with the company's core processes is required. "Regular communication about the changes and the benefits that these changes bring can help to keep your employees motivated and reduce resistance to change," said one executive.

Lack of competencies

According to a report by CIO, the biggest roadblock to digital transformation is a lack of qualified, skilled IT talent. Digital Transformation necessitates a diverse set of modern skills in terms of technology and IT knowledge and skills in various other essential areas. As one executive expressed his concern "Deep technology experts may not be available in-house for many small and medium-sized businesses. Organizations must decide whether to retrain internal employees or seek outside assistance." Several vendors are also expanding

their digital transformation roadmap definition and services to include it for a faster time to market and to make use of the most up-to-date technology stack.

Legacy IT Systems

The integration of legacy systems can sometimes be a significant impediment to digital transformation. Because most legacy IT infrastructure is built around current implementations, businesses are ill-equipped to implement advanced technologies. In DT projects, infrastructure scalability is a game-changer.

Technology – Business Alignment

Information Technology departments of organizations are accustomed to keeping a long-term perspective on technology investments and delivering business solutions. Business units' insatiable demands and technology implementations, on the other hand, have created adoption bottlenecks. To develop business services, a flexible and iterative assemble-to-order approach is required. The business and IT departments must work together consistently, collaboratively, and incrementally. "When considering digital transformation for your company, you'll need a big picture and much planning," remarked one executive.

Lack of budget or clarity on the budget for digital transformation

The lack of budget is one of the major roadblocks to the success of the digital transformation. For most business leaders, establish a limited budget for developing successful digital transformation processes. The right technology with an experienced team to implement said technology will drive digital transformation.

Digital security

Most visionaries are concerned about data security since cybersecurity is difficult, dynamic, and fast-changing. Forrester and Gartner, two industry research firms, recently produced papers expressing similar worries. The ability of a firm to secure its digital operations is quite vital to the success of its digital transformation.

Agility Challenge

Any successful digital transformation in a large corporation requires scaling. The heart of digitization is agile change. For more than 50% of firms, agile transformation is a key objective and parameter for digital transformation. Many businesses fail to fulfill this objective and hence face quite a challenge in beginning their transformation journey.

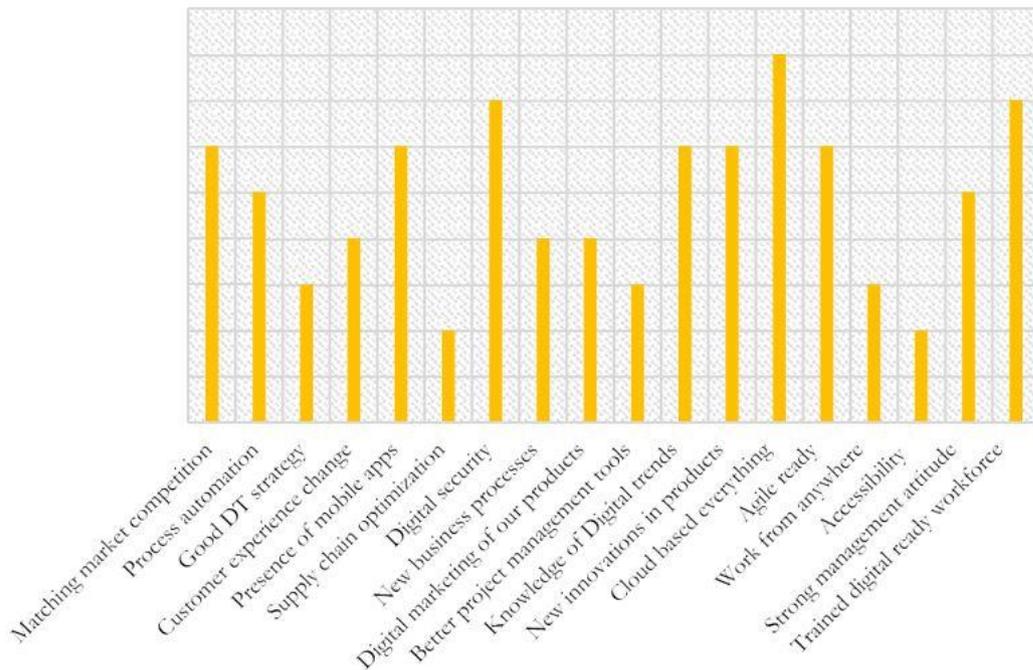
Continuous Evolution of Customer Needs

Organizations are constantly changing, and COVID-19 has accelerated this process. Consider what a client desire. As the world and industries change, so does this. Digital transformation is challenging to complete, and extensive transformation efforts can take years. According to one executive "What if your customers' needs changed during that time? The evolution of customer issues will occur. Don't be surprised and prepare to be flexible regarding digital technology adoption."

Parameters to assess the digital readiness –

Depending on how advanced a company's digital capabilities are relative to competitors or rising consumer and employee expectations, a company's digital readiness differs for each business unit. Because most digital prospects will require significant IT investment, digital maturity is highly dependent on the firm's IT skills and the strategic connection between IT and non-business executives. Businesses should consider how well they plan and manage their digital transformation.

Based on our study, we received various responses as to what executives think of digital readiness:



Through these responses, we could categorize them into five main parameters

Strategy and Management – whether the company has a systematic digitization strategy and an understanding of the said strategy if the current management can drive digital transformation or if there is a lack of competencies if the existing management is aware of the imminent disruption from existing and new competition

Customer – whether the company knows how to create a great customer experience in times of digitization, if the company is present on the right digital channels and knows how to reach customers through them, and the company is using new technologies to provide the best customerservice

Organization, Culture, and People – whether the company has an organizational structure in place that promotes digital transformation instead of preventing it, the right people employed who are willing and open to moving towards digital transformation, and management that supports the digital education of the employees via workshops and learning programs

Operations and Technology – whether the company uses the benefits of digitization to introduce automation reduce costs and increase efficiency if the company is trained and prepared for the danger of cyber criminality if the company partners with other companies and businesses to overcome the challenges of digital transformation and lack of knowledge

Innovation – whether the company supports digital initiatives and management is open-minded towards digital transformation and change, the extent to which the company invests in new products and services, whether the company incorporates new ways of digitization and learnings from the world of start-ups and digital leaders to foster innovation

Discussions and Conclusions

Assessing the digital readiness of a company – building a digital maturity graph

The first step in the company's path to digital transformation is an assessment of the existing technology framework, which decides the digital readiness of the company and its digital maturity index. The goal is to make it easier for businesses to achieve their objectives and serve their customers. Big data and advanced technologies now power the world, and digital is disrupting everything from business models to entire industries, affecting businesses from top to bottom. We need a clear vision of the company's digital readiness scale to unlock the digital plan. We need to assess how digital readiness affects all aspects of the business. Digitally mature companies consider more than just purchasing high-quality digital tools. They are relentless in pursuing new business value from digitization via ongoing operations optimization. They don't just use cutting-edge technology to achieve this. Instead, they can use a Digital Maturity Framework to

integrate digitization into core operations, reshaping the entire organization in the process to maximize productivity, and performance and generate industry-leading results. Companies need to assess their digital maturity before embarking on their digital transformation journey. There are six major areas to consider according to the Grant Thornton model (2021). The model while helping companies assess their maturity on the digital index also shows the areas for improvement. It helps businesses establish the degree to which they have embedded digital processes in their operating models and how effective their initiatives are when it comes to digital transformation and customer engagement

The companies need to ask these questions to themselves

Is their digital vision well-articulated and shared?

How much is being invested in state-of-the-art digital technologies?

Is technology at the core of new business changes being implemented? Is there a trained workforce to integrate these changes?

Are companies creating strategies for digital investment and governance?

Is the organization - both senior management and employees ready for the change?

Based on the answers to these questions, we can plot organizations on the digital transformation maturity graph as per the following:

The X-axis - digital capabilities

The Y axis - transformation management intensity

Y axis - transformation management	Digital Worker	Digital Leader
	Digital Beginner	Digital Thinker
	X-axis- digital capabilities	

Digital Thinker

Lack of over-compassing and underdeveloped digital vision

Mature traditional digital capabilities coupled with few advanced digital features

Strong cross-silos digital governance

Taking proactive measures to improve digital literacy and culture

Digital Beginner

Management is skeptical of advanced digital technologies' business value

May conduct some technological experiments

Digital culture at a nascent stage and immature - lots of scope for growth

Digital Worker

Social media and the presence of mobile apps across individual business units

There is no overarching vision

Coordination is still a little underdeveloped

Digital culture may still be present in silos

Digital Leaders/Pioneers

Strong all-encompassing and overarching digital vision with a defined purpose

Excellent governance

The measurable business value generated through a plethora of digital initiatives

Strong Digital culture

Signs of a Digitally Mature Company

Digitally mature businesses consider more than just purchasing high-quality digital tools. They are relentless in pursuing new business value from digitization via ongoing operations optimization. Digitally mature companies have the following characteristics

A defined strategy and proactive management

In a digital-first world, they create a clear vision that improves customer value. These companies have a systematic digital transformation agenda encompassing both internal and external ecosystems, that they map out and use to stay one step ahead of the competition. A senior executive with extensive digital knowledge and the authority to drive change usually referred to as the Digital Champion is at the heart of these organizations.

Customer-centricity foremost principle

Digital leaders redefine goals by putting customers at the core of all business activities and take decisions to enhance their experience. They use omnichannel selling, social media targeted ads, and digital marketing insights to provide buyers with a curated, seamless purchasing experience. They invest in customer service tools to keep in touch with them 24x7 such as chatbots.

A supportive, open-minded organizational mindset

Digital leaders are inclined towards flat hierarchies that promote quick decision-making and a digital working culture that cultivates an increasingly positive and skilled workforce. Employees have access to digital learning and change programs that improve their knowledge of digitization and identify and address resistance areas thus retaining a talent pool of qualified people.

Automated processes

They invest heavily in digitizing and automating core processes, as well as using RPA to boost supply chain efficiency. They employ cutting-edge IT infrastructure to help them achieve their ambitious business objectives. Digital leaders integrate sophisticated cybersecurity in their organizations to protect this mission-critical infrastructure.

A culture that invites continuous innovation

Digital Leaders foster a pervasive start-up mentality, which includes agile product development, quick user testing, and highly innovative sprints to create MVPs and use them as prototypes. They are mindful of the value that partners can bring to their processes and bounce ideas rhythmically to ideate and launch brilliant, life-changing products.

An organization can only go so far with its planning. At each local level, change must be driven from the top. A journey with milestones defined by what an organization wants to achieve and how it wants to achieve it is known as digital transformation. However, if the strategy is not implemented properly, it is doomed to fail. This must be done from the top down and horizontally across business units. Transformation to the digital age strategy must be overseen by the CEO or CXO and run as a separate business unit. Two-way communication is crucial in bringing about change and reducing organizational resistance, as it is in most business transformations. Leveraging the right vision and leadership can create new growth opportunities from digital transformation. Growth metrics and KPIs should be clearly defined to help celebrate milestones and constantly monitor and review progress toward the ambition once the goals have been clearly stated and the organization structure has been aligned.

Contribution, Limitation, and future research

The pandemic has changed many things and accelerated businesses toward their digital transformation journeys. Businesses are revisiting their digital strategies and future transformation landscape. The theoretical contribution of this study is that the study uses the Grant Thornton model of creating a digital matrix. The practical contribution includes that based on the learnings and inputs from the study we have created a simple matrix that can be used by organizations to jumpstart their digital transformation journey. The study included a young and enthusiastic population whose outlook is a little different from the older generation. They will lead and define the future but as per the current scenario, the power still lies in the hands of the older generation. Future studies can include CEO-level executives. An entirely different perspective may be

presented by this different set of audiences. This was a qualitative exploratory study. A quantitative survey method with a larger sample size could be done to get a comprehensive analysis. The number of sectors was limited, a cross-sectional analysis and comparing start-ups with big organizations would give interesting insights.

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Impact of gender accounting on risk management in treasury functions of Nigeria deposit money banks

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Deposit money banks, Fraudulent practices, Gender accounting, Gender diversity, Risk management

Abstract

Fraudulent practices in the banking sector, especially as it affects the functions of the treasury department has been a subject of intense concern to policymakers and other stakeholders. It is, however, believed that if more female bank staff are utilised, it could lead to a better management of risk. This study investigated the nexus between gender accounting and the dependent variable. Structured questionnaire was administered on 10 staff of each of the Nigerian Deposit Money Banks. The population, which also represents the sample size comprises of 10 banks purposively selected with only 39% responses received. Data were analysed with the aid of logit regression. The results showed a significant positive relationship between gender accounting and risk management in treasury functions (Adj. $R^2 = 0.680$, F-stat = 21.145, $p < 0.05$). This implies that increase in the independent variable will reduce the risk associated with the treasury functions of banks in Nigeria with diverse results from the three proxies of independent variable. The descriptive results showed that more women in the treasury will minimise theft of funds. The study concluded the need for policymakers and regulatory authorities to establish the policy that will encourage more of women inclusion in the banking treasury department.

Introduction

Globally, bank treasury department is responsible for certain functional activities like transfer of fund, diverse liquidity services, management of assets and liabilities, and trading and hedging, among others. These functions, which expose the staff to huge fund management responsibilities, have, however, increased the possible risk of mismanagement, diversion of funds for personal gains, cash theft and other fraud-related actions. Consequent to this, eight deposit money banks in Nigeria lost N1.9bn for fraudulent incidents in 2020 and four other banks lost N1.77bn in 2021 (Orjiude, 2021, 2022). In addition, the Nigeria Deposit Insurance Corporation (NDIC) also reported that Nigerian banks lost over N264.5 billion to fraud between 2017 to September 2020 (Bamigboye, 2021). To this, Udeh and Ugwu (2018), opined that there has been huge scale of fraud in the banks in Nigeria, which caused distress in the sector.

Accordingly, this has caused more concern for stakeholders on the fraudulent activities in the banking sector in the country. These have occurred partly in form of theft; manipulation of records to conceal theft; unofficial borrowing; misappropriation of fund held on trust for customers; manipulation of vouchers; cash theft of local and foreign currencies; and fraudulent money transfers (Enofe, Abilogun, Omoolorun & Elaiho, 2017; Akinyomi, 2012). Relative to the roles of banks in economic development of nations and to abate this menace, the respective government agencies like the Central Bank of Nigeria (CBN), Nigeria Inter-Bank Settlement Systems Plc, Economic and Financial Crime Commission (EFCC), etc, through collaborative efforts, have increased the regulatory surveillance on banking activities, most importantly, the treasury department. To this end, the various regulatory functions relating to short-term financial flow management and liquidity management have become more imperative in the banking environment (Jose, Iturralde & Maseda, 2008).

To effectively manage the risk associated with dishonesty in banking treasury functions, focus, in the recent time, has been expressed on the need for systematic adoption of gender sensitivity and diversity. This could possibly be as a result of the perception in several quarters that men are prone to fraudulent activities than women. According to study conducted by the United Nations Office on Drugs and Crime on Gender and Corruption in Nigeria, it is argued that male public officials are more likely to be more involved in bribery, corruption and other fraudulent vices than women (UNODC, 2020). This could also be said to have been reinforced by the increase in the number of women Managing Directors/Chief Executive Officers of banks in Nigeria contrary to fewer number in any given year in the past. This includes - Nneka Onyeali-Ikpe, Fidelity Bank; Yemisi Edun, FCMB; Halima Buba, SunTrust Bank; Miriam Olusanya, GTBank; Irete Samuel-Ogbu, Citibank; and Oluwatomi Somefun, Unity Bank (CIBN, 2022).

Consequently, Gender Accounting, one of the contemporary issues in accounting is seen as a necessity to justify gender balance in organisations' efficiency in corporate functionalities. This behoves accounting as both a gendered and gendering institution in relation to career hierarchies, motherhood, and feminisation and segmentation, etc. (Haynes, 2017). It is also believed that gender diversity is positive for audit efficiency and the increase in the representation of women on boards of corporations enhances organisational growth (Bustos-Contell & Labatus-Serer, 2022; Simionescu, Gherghina, Tawil & Sheika, 2021). As a result of this, stakeholders in Nigeria argued that this could be replicated for effective risk management of treasury functions of banks. Despite this, certain critical questions are in need of empirical solution to bring to fore the possible effectiveness of gender accounting on risk management in this department in the banking industry.

For instance, what will be the effect of effective gender policy on risk management of treasury functions? What will be the relationship between mandatory gender composition policy on treasury functions? What is the nexus between gender-based performance evaluation disclosure on risk management of treasury functions? Will a compulsory performance gender equality strategy assuage fraudulent practices in the treasury department of banks in Nigeria?

This study, which will provide response adequately to these questions, will contribute to the body of knowledge having considered the areas of major concentration of previous studies on matters of gender diversity. For instance, Khlif & Achek (2017) explored a review of literature on gender issues in accounting over the period of 1994-2016, which differs from this study from the area of risk management of treasury department as well as the concentration on Nigeria banking industry. For Atena & Tiron-Tudor (2020), they examined the inequalities that exist against women in the accounting profession, covering 1994-2017, and Bustos-Contell & Labatus-Serer (2022), investigated gender diversity in auditing. While their articles focussed on human resources practices for recruitment and women involvement in auditing respectively, this study will unearth the nexus between gender accounting and risk management in the banking industry. Meanwhile, according to Atena & Tiron-Tudor (2020), gender issues in accounting is under-researched, hence, this study will build on this established gap.

Literature Review

Review of related literature and theoretical background

Various studies have examined diverse areas of gender accounting, especially from the perspective of developed economies. The results, however, have showed mixed assertions in different areas of research. The study of Atena & Tiron-Tudor (2020) argued for a more balanced human resources recruitment policy to change the traditional male-dominated society, especially in Europe. The study, which opined that there are still organisation practices that have profound gendered impacts, had an output slightly different with Kaatz, Vogelmann & Canes (2013). Kaatz, Vogelmann & Canes (2013) opined that it is difficult to conclude that because of the higher possibility of men committing fraud other contexts will imply same scenario on scientific misconduct. The study of Gottschalk & Glaso (2013), however, argued that despite only 20 women out of 255 white collar criminals in Norway between 2009 to 2012, their access to corporate power structures still remains curtailed. Thus, aligning in principle to the studies of Atena & Tiron-Tudor (2020) and Kaatz, Vogelmann & Canes (2013) alluding to men having more criminal tendencies than their female counterparts.

To Tiron-Tudor & Faragalla (2018), women face gender issues in accounting profession and in different career paths. According to these scholars, the factors extend to discrimination, motherhood, glass-ceiling, double standard and lack of visibility. Tiron-Tudor & Faragalla (2018), however, deviated from the research

areas of the previous authors by not delving into gender-influenced organisational performance, but stressed on gender discrimination against women.

Din, Cheng & Nazneen (2018), pointed critically that lack of self-motivation and the dominance of men subordinated women in their places of work. These authors, however, argued that if women had been able to have equal opportunities like men, they could possibly have changed the course of events in organisations. In the same vein, Jeny & Santacreu-Vasut (2017) explored the rarity of women in accountancy profession leadership and the possible causes. The authors focussed less on gender inequalities of Din, Cheng & Nazneen (2018), but believed that the Big4 accounting firms operate in heterogeneous linguistic environments, but with common strategic goals.

The role of the treasury department in the deposit money banks, however, evolves around funds transfer, liquidity services and other financial instruments. The risk of theft, diversion of fund and other fraudulent practices, however, could portend danger to the developmental objective of banks. Due to this, Chamwana & Anyieni (2017) opined for the need for effective treasury risk management. To these scholars, there has been a lot of concentration on banks treasury risk management, but this study examined how gender equality could be seen as an effective treasury risk management.

Despite these studies, therefore, the issue of gender in the banking area of risk management on treasury functions has witnessed little attention from scholars, which this study used for the dependent variable.

2.1.1. Gender Accounting

This is conceptualised on the need to address the issues confronting gender inequalities in the field of accounting. From the assertion of Khlif & Achek (2017), three main streams of GA relate to financial reporting – earnings quality, voluntary disclosure, accounting conservatism; and auditing – audit fees, audit opinion, audit report, audit report lag; among others. Regarding this, GA could be expanded to cover all areas of gender inequalities, which could possibly determine the trend of organisational goals when gender policy is firmly regulated. For instance, Siboni, Sangiorgi, Farneti & De Villiers (2016) argued that nations and corporate bodies with better policy on gender equality have better performances. To them, when more women are represented, it will create better social empowerment in all walks of life. Due to the under-representation of women at strategic positions of organisations, even getting remuneration lower than their male counterparts, (Siboni, Sangiorgi, Farneti & De Villiers (2016) GA, then becomes pivotal to address this imbalance. Within the Nigerian context, however, this area has not been really explored, most especially the issue of Gender Accounting, which is till grey area both in the academic and professional literatures.

To authors, therefore, GA will enable scholars and policymakers to accentuate the impact that equal female representations in areas of accounting, auditing and others could be majorly shaped by anti-discriminatory argument of under-representation of women in management and audit professions on one side and at the same time having empirical knowledge of how women equal representation could positively reduce risks in organisations (Khlif & Achek, 2017; Tiron-Tudor & Faragalla, 2018; Bustos-Contell & Labatus-Serer, 2022). This study, thus, used some proxies to evaluate the link between GA and risk management in treasury functions.

2.2.2 Effective Gender Policy (EGP)

This is premised on the primary context of GA of the need for organisation to have a workable corporate governance that recognises gender equality. The use of this as a sub-component of GA, thus, implies that gender inequality could be effectively resolved if it becomes regulated within the ambit of the law. For example, Murreli & James (2001) argued that there are discriminatory actions and other barriers to the career of women and their development. Thus, gender diversity could be better managed if there are effective corporate punishment well documented in that regards, which EGP of this study professes.

Thus: $\beta_{EGP} > 0$

2.2.3 Mandatory Gender Composition Disclosure (MGCD)

It is argued that disclosure of information has a positive effect on firm performance (Qizam, 2021). It is on this argument that this study believes that when the disclosure of the composition of gender is made mandatory, it will positively influence the risk management in the treasury department of banks in Nigeria.

Thus: $\beta_{MGCG} > 0$

2.2.4 Compulsory Gender Equality Strategy (CGES)

Nickols (2016) opined that strategy is the determination of the short- or long-term objectives of an organisation and the sequence of actions to actualise these. To this scholar, strategy emanated from the Greek word "*strategia*", which means "generalship" and it has no existence aside from the ends sought.

Nigeria organisations, therefore, require strategy to be able to achieve gender equality objective.

Thus: $\beta_{CGES} > 0$

2.2.5 Gender-based Performance Disclosure (GbPD)

According to Idowu (2017), performance appraisal techniques have been devised for effective appraisal of employees beyond rating to motivation. This implies that when employees are appraised, it will enhance productivity. When organisations, therefore, formulate performances that statistically gender-based, with the expectation for disclosure, it will enhance productivity. Expectedly, leading to the minimisation of the risk associated with organisation departmental functions, including those of treasury.

Thus: $\beta_{GbPD} > 0$

Meanwhile, the connecting link between the independent variable, along with the proxies and the dependent variable is shown in Figure 1.



Figure 1: Conceptual Framework for the Study
Source: Authors' Concept (2022)

2.3. Theoretical review

This study reviewed risk management theory and gendered organisation theory.

2.3.1 Risk-management theory

The risk-management theory is built on three fundamental concepts – utility, regression and diversification (Ajupov, Sherstobitova, Syrotiuk & Karataev, 2019). According to these researchers, utility method, propounded by Bernoulli (1738), argues on the process of decision making, which requires people to focus more on the magnitude of the effects of different outcomes. Meanwhile, the regression aspect of this theory, which began in the 19th century, postulated that regression deals on the probability of risks and concluded with the prediction of business cycle fluctuations (Ajupov, Sherstobitova, Syrotiuk & Karataev, 2019). The diversification theorists (Markowitz, 1952), as cited by Ajupov, Sherstobitova, Syrotiuk & Karataev (2019), however, believed that the intelligent allocation of investments known as portfolio theory will minimise deviation from the expected return. To this effect, the issue of risk management thoughts in

the financial sector have been established by policymakers and scholars, but having examined the three concepts of this theory, it is necessary to argue that things evolve for organisational growth. Thus, investigating how GA could influence risk management through gender sensitivity, favours dynamism concepts of this theory. Therefore, this study is underpinned with risk-management theory.

2.3.2 Gendered Organisation theory

Mastracci & Arreola (2016) opined that this theory predicts that norms and practices based on stereotyped male and female will persist, regardless of the composition of the workforce. They further argued that no amount of flexitime or on-site day-care programs will produce workplace equity without addressing the underlying reasons why organisations are gendered. This theory tends to negate the penalty associated with the breaching of established rules and regulations, which forms part of this study, with the adoption of Effective Gender Policy (EGP) as one of the sub-components of independent variable. This study, believes that when organisation institute firm policy, all other mentioned things become irrelevant. Therefore, this study is built on risk-management theory.

3. Methodology

This study adopted the survey research, which Akintoye, Ogunode, Ajayi & Joshua (2022) opined that it is considered appropriate having been tailored towards studying a sample from population where inferences could be drawn on the characteristics of the population. Thus, primary data was used with the administration of structured questionnaire on bank officials, with the aid of 5-point Likert scale method. The population of the study, which also represents the sample size was 100 bank staff, drawn from 10 employees each from 10 banks, purposively selected and which according to Akintoye, Ogunode, Ajayi & Joshua (2022), citing Wilson, Odo & Ikenna (2014) forms the substantial number of the banks with the highest market capitalisation. The banks chosen for this study are - Zenith bank, Access bank, First bank, FCMB, GTBank, Sterling bank, Stanbic bank, Polaris bank, Wema bank, Ecobank, and UBA. Logit regression with the aid of SPSS statistical application was used to measure the variables. Meanwhile, only 39 (39%) responses were received.

Regression model specification

$$Y = f(X)$$

Y is the Dependent Variable = Risk Management in Treasury Functions (RMTF)

X is the Independent Variable = Gender Accounting (GA). Gender Accounting is thus proxied by the following:

X_1 = Effective Gender Policy (EGP)

X_2 = Mandatory Gender Composition Disclosure (MGCD)

X_3 = Compulsory Gender Equality Strategy (CGES)

X_4 = Gender-based Performance Disclosure (GbPD)

Therefore, $RMTF = f((EGP, MGCD, CGES, GbPD)$

$$RMTF = \beta_0 + \beta_1 EGP + \beta_2 MGCD + \beta_3 CGES + \beta_4 GbPD + \mu_1$$

The *a priori* expectation = $\beta_1 - \beta_4 > 0$

Results and Discussions

Table 1: Descriptive Statistics of general responses from the respondents

	N	Min	Max	Mean	Std. Dev
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Effective policy on gender for women maximum inclusion will minimize fund theft	39	2.00	5.00	4.1026	.88243
More women in treasury functions reduces mismanagement of funds	39	1.00	5.00	3.9231	1.03580
Risk in treasury functions will be minimized when gender policy is functioning	39	1.00	5.00	3.7692	.93080
Disclosure of mandatory gender composition encourage more financial discipline in treasury	39	2.00	5.00	3.7949	.76707
There will be reduction in fraud of cash in banks when more women are involved in treasury activities	39	2.00	5.00	3.7949	1.03057
Organization funds will be more secured when mandatory gender composition is disclosed	39	2.00	5.00	3.8462	.74475
Gender-based performance evaluation disclosure enhances security of treasury funds	39	2.00	5.00	3.8974	.71800
Disclosure of performance, based on gender classification helps to reduce risk in treasury	39	2.00	5.00	3.7949	.80064
When performance of treasury staff is effectively disclosed, it will reduce loss of funds	39	2.00	5.00	3.9231	.80735
Adoption of compulsory gender equality strategy helps to safeguard organization funds	39	2.00	5.00	3.9231	.83932
When gender equality strategy is made compulsory, there will be reduction in the risk in treasury activities	39	2.00	5.00	3.8205	.75644
Compulsory gender equality strategy enhances trust in treasury functions	39	2.00	5.00	3.8462	.96077
Women are better managers of funds	39	2.00	5.00	4.1026	.99459
Women are more honest than men	39	2.00	5.00	3.7179	.94448
Men commit more fraud than women	39	1.00	5.00	4.1282	1.00471
Organisations that have women in charge of treasury functions will have reduced risk on loss of funds	39	2.00	5.00	3.7692	.87243
Men are always given more space than women in employment opportunities	39	2.00	5.00	3.5897	1.06914
Women treasurers have higher trust criteria than men counterparts	39	2.00	44.00	4.9487	6.47647
Male dominated treasury department is more prone to fraud than women dominated	39	2.00	5.00	3.8462	.96077
Public will trust organization with women in charge of treasury than those of men	39	2.00	5.00	3.7179	.85682
Valid N (listwise)	39				

Source: Authors' Field Survey (2022)

Table 1 shows the descriptive statistics of the respondents' responses on each of the twenty (20) questions raised on the variables, using the 5-points Likert scale questionnaire. While the respondents selected all the available options (Strongly agree - SA; Agree - A; Undecided - U; and Disagree - D), for all the questions, with the exception of Strongly Disagree - SD, which was only selected under three questions (More women in treasury functions reduces mismanagement of funds; Risk in treasury functions will be minimized when gender policy is functioning; and Men commit more fraud than women). The detailed results are discussed in Tables 2-6.

Table 2: Gender Accounting indicator - Effective Gender Policy (EGP)

NO	Questions	S.A.	A.	N.	D	SD	Mean	Std Dev
1	Effective policy on gender for women maximum inclusion will minimize fund theft	14 (35.9%)	18 (46.2%)	4 (10.3%)	3 (7.7%)	0 (0.0%)	4.1026	0.88243
2	More women in treasury functions reduces mismanagement of funds	11 (28.2%)	21 (53.8%)	1 (2.6%)	5 (12.8%)	1 (2.6%)	3.9231	1.03580
3	Risk in treasury functions will be minimized when gender policy is functioning	7 (17.9%)	21 (53.8%)	7 (17.9%)	3 (7.7%)	1 (2.6%)	3.7692	0.93080

Source: Authors' Field Survey (2022)

Three questions were raised on how effective gender policy, one of the proxies of the independent variable would have an impact on the dependent variable. In Table 2, the descriptive results showed that 82.1% of the respondents for question 1 believed that effective policy on the inclusion of more women in treasury will minimize fraud and theft, along with the mean and standard deviation of the result. While 10.3% of the respondents were neutral, 7.7% disagreed. Questions 2 (82% in agreement) and 3 (71.7% in agreement) in Table 2, equally have similar responses like question 1. It could be deduced that effective gender policy will impact positively on the dependent variable. The regression results are, thus, shown in Table 7.

Table 3: Gender Accounting indicator - Mandatory Gender Composition Disclosure (MGCD)

NO	Questions	S.A.	A.	N.	D	SD	Mean	Std Dev
1	Disclosure of mandatory gender composition encourage more financial discipline in treasury	6 (15.4%)	21 (53.8%)	10 (25.6%)	2 (5.1%)	0 (0.0%)	3.7949	0.76707
2	There will be reduction in fraud of cash in banks when more women are involved in treasury activities	11 (28.2%)	15 (38.5%)	7 (17.9%)	6 (15.4%)	0 (0.0%)	3.7949	1.03057
3	Organization funds will be more secured when mandatory gender composition is disclosed	5 (12.8%)	26 (66.7%)	5 (12.8%)	3 (7.7%)	0 (0.0%)	3.8462	0.74475

Source: Authors' Field Survey (2022)

Table 3 showed the descriptive results of the questions raised on how mandatory gender composition disclosure, a proxy for independent variable would impact on the dependent variable. In the Table, 69.2% believed that the disclosure of mandatory gender composition will encourage more financial discipline in treasury. This is a bit lower than that of effective gender policy. While there was no respondent that strongly disagreed, 25.6% were neutral and 5.1% disagreed. Question 2 had 66.7% respondents agreeing and the third question had 79.5% in agreement. The mean and the standard deviation are also shown in the Table. This implies that disclosure of mandatory gender composition will impact positively on the dependent variable. The regression results are shown in Table 7.

Table 4: Gender Accounting indicator - Compulsory Gender Equality Strategy (CGES)

NO	Questions	S.A.	A.	N.	D	SD	Mean	Std Dev
1	Adoption of compulsory gender equality strategy helps to safeguard organization funds	8 (20.5%)	24 (61.5%)	3 (7.7%)	4 (10.3%)	0 (0.0%)	3.9231	0.83932
2	When gender equality strategy is made compulsory, there will be reduction in the risk in treasury activities	5 (12.8%)	25 (64.1%)	6 (15.4%)	3 (7.7%)	0 (0.0%)	3.8205	0.75644
3	Compulsory gender equality strategy enhances trust in treasury functions	10 (25.6%)	18 (46.2%)	6 (15.4%)	5 (12.8%)	0 (0.0%)	3.8462	0.96077

Source: Authors' Field Survey (2022)

In Table 4, 82% of the respondents argued that the adoption of compulsory gender equality strategy will assist to safeguard the funds of organisations, 7.7% were neutral and 10.3% disagreed. The mean and the standard deviation are also shown on the Table. The other two questions in Table 4 also showed similar trend. This means that with the introduction of compulsory gender equality strategy, risk management in functions of the treasury department in the deposit money banks, will be more enhanced. The regression results are shown in Table 7.

Table 5: Gender Accounting indicator - Gender-based Performance Disclosure (GbPD)

NO	Questions	S.A.	A.	N.	D	SD	Mean	Std Dev
1	Gender-based performance evaluation disclosure enhances security of treasury funds	6 (15.4%)	25 (64.1%)	6 (15.4%)	2 (5.1%)	0 (0.0%)	3.8974	0.71800
2	Disclosure of performance, based on gender classification helps to reduce risk in treasury	6 (15.4%)	22 (56.4%)	8 (20.5%)	3 (7.7%)	0 (0.0%)	3.7949	0.80064
3	When performance of treasury staff is effectively disclosed, it will reduce loss of funds	8 (20.5%)	23 (59.0%)	5 (12.8%)	3 (7.7%)	0 (0.0%)	3.9231	0.80735

Source: Authors' Field Survey (2022)

Table 5 showed the responses, the relevant percentages, the mean and the standard deviation of the three questions on the impact of gender-based performance disclosure on the dependent variable. The Table showed that 79.5%, 71.8% and 79.5% argued in favour of questions 1, 2 and 3 respectively. Meanwhile, 15.4%, 20.5% and 12.8% were neutral on the three questions in ascending order, while 5.1%, 7.7% and 7.7% for questions 1, 2 and 3 respectively, disagreed with the submissions. With these results, it could be deduced that gender-based performance disclosure will positively impact on risk management in functions of the treasury department in the deposit money banks. The regression results are shown in Table 7.

Table 6: Risk Management in Treasury Functions (RMTF) indicator

NO	Questions	S.A.	A.	N.	D	SD	Mean	Std Dev
1	Women are better managers of funds	17 (43.6%)	13 (33.3%)	5 (12.8%)	4 (10.3%)	0 (0.0%)	4.1026	0.99459
2	Women are more honest than men	9 (23.1%)	14 (35.9%)	12 (30.8%)	4 (10.3%)	0 (0.0%)	3.7179	0.94448
3	Men commit more fraud than women	16 (41.0%)	17 (41.0%)	2 (5.1%)	3 (7.7%)	1 (2.6%)	4.1282	1.00471
4	Organisations that have women in charge of treasury functions will have reduced risk on loss of funds	6 (15.4%)	23 (59.0%)	5 (12.8%)	5 (12.8%)	0 (0.0%)	3.7692	0.87243
5	Men are always given more space than women in employment opportunities	7 (17.9%)	19 (48.7%)	3 (7.7%)	10 (25.6%)	0 (0.0%)	3.5897	1.06914
6	Women treasurers have higher trust criteria than men counterparts	1 (2.6%)	9 (23.1%)	21 (53.8%)	4 (10.3%)	4 (10.3%)	4.9487	6.47647
7	Male dominated treasury department is more prone to fraud than women dominated	10 (25.6%)	18 (46.2%)	6 (15.4%)	5 (12.8%)	0 (0.0%)	3.8462	0.96077
8	Public will trust organization with women in charge of treasury than those of men	6 (15.4%)	20 (51.3%)	9 (23.1%)	4 (10.3%)	0 (0.0%)	3.7179	0.85682

Source: Authors' Field Survey (2022)

In Table 6, majority of the respondents, using Risk Management in Treasury Functions (RMTF) indicator, believed Women are better managers of funds (76.9%), Women are more honest than men (59%), Men commit more fraud than women (82%), Organisations that have women in charge of treasury functions will have reduced risk on loss of funds (74.4%), Men are always given more space than women in employment opportunities (66.6%), Male dominated treasury department is more prone to fraud than women dominated (71.8%), and Public will trust organization with women in charge of treasury than those of men (66.7%). This, however, is in contrast with question 6 of the Table where only 25.7% of the respondents argued that Women treasurers have higher trust criteria than men counterparts, with 53.8%

chosen neutral option, and 20.6% either disagreed or strongly disagreed. With the demographic of 51.2% female and 48.8% male (appendix 1), this shows that any gender bias is not material to affect the empirical results.

Table 7: Regression analysis results

Variables	Coefficient (β)	Std Error	T-Stat	p-value*
C	0.187	0.450	0.415	0.680
EGP	0.143	0.117	1.226	0.229
MGCD	0.108	0.172	.627	0.535
CGES	0.769	0.200	3.845	0.001
GbPD	0.202	0.137	1.469	0.151
F-Stat	21.145			
Prob (F-Stat)	0.000 ^b			
R ²	0.713			
Adjusted R ²	0.680			

Source: Authors' Field Survey (2022)

*The p-value is at 5% significance level

Table 7 showed the results of the logit regression. These showed that the sub-components of the independent variables – EGP, MGCD, CGES and GbPD, denoted by β_1 , β_2 , β_3 , and β_4 , are positively linked with the dependent variable (Risk Management in Treasury Functions –RMTF). These results are seen with the coefficient of 0.143, 0.108, 0.769, and 0.202 for EGP, MGCD, CGES and GbPD respectively, > 0 , in line with the *a priori* expectations. This implies that unit of EGP (0.143), MGCD (0.108), CGES (0.769), and GbPD (0.202), will lead to upward movement of the risk management in treasury functions in deposit money banks in Nigeria accordingly. The adjusted R² (0.680), however, implies that only 68% variation from the predictor variables could only be accounted by 68% of the dependent variable, while the balance of 32% could be explained by other factors not recognised in this study.

Meanwhile, the p-values of the proxies are greater than zero (EGP – 0.229, MGCD – 0.535, CGES – 0.001, and GbPD – 0.151), which shows that the proxies of the independent variable will positively influence the dependent variable. At 5% significance level, however, CGES is the only variable that is significant, for others are greater than 5%. Furthermore, the F-statistics result was 21.145 and p-value for the model was 0.000, which is less than 5% significance level. This implies that the null hypothesis is rejected and concluded that there is a positive significant nexus between Gender Accounting (GA) and Risk Management in Treasury Functions in Nigeria Deposit Money Banks. Therefore, the model specification result is that: $RMTF = 0.187 + 0.143EGP + 0.108MGCD + 0.769CGES + 0.202GbPD + \mu_1$. The outcome of this regression, however, is in agreement with the studies of Chamwana & Anyieni (2017), Bustos-Contell & Labatus-Serer (2022), and Simionescu, Gherghina, Tawil & Sheika (2021) but at variance with the research of Adebisi, Okike and Agbo (2016).

Conclusion and Recommendations

This study investigated the relationship between gender accounting and risk management in treasury functions in Nigerian deposit money banks. This is with the intention to establish the pattern (be it positive or negative) of the nexus between the variables. It further conducted to examine if any established empirical relationship would be significant. The study adopted Effective Gender Policy (EGP), Mandatory Gender Composition Disclosure (MGCD), Compulsory Gender Equality Strategy (CGES), and Gender-based Performance Disclosure (GbPD) as sub-components of the Gender Accounting, the independent variable to regress against the dependent variable - Risk Management in Treasury Functions (RMTF).

In the descriptive statistics, the results showed that majority of the respondents believed that effective policy on the inclusion of more women in treasury will minimize fraud and theft, and that Organization funds will be more secured when mandatory gender composition is disclosed, among others. The results, however, showed a positive significant relationship between gender accounting and risk management in treasury functions. This implies that, fraud among other risk, in the treasury department will be minimized, when gender diversity is duly recognised. This study, therefore, recommended the need for the inclusion of more women in the treasury department of banks, the need for effective gender policy on the functions

of this department, and policymakers should mandate deposit money banks to give considerable attention to gender equality in the treasury department.

Research Implications

Nigeria, being a developing economy has been bedevilled with economic distress, which inadequacies and ineffectiveness in leadership are observed as part of the militating factors (Okolie and Ignini, 2020; Anyadike and Emeh, 2014). While the leadership of sectors and the nation is headed majorly by the male gender, the outcome of this study shows that gender diversity will enhance more accountability and responsibility, which will lead to improved performances, when there is increased number of women in leadership as shown with the focus of this research - treasury functions in banks.

Limitations of the Study

This study is limited on the low level (39%) of returned questionnaire from the respondents. It is a possibility that the empirical results of the research could slightly change if all the respondents complied fully. The study is also limited by the number of respondents (100) from ten banks chosen. The results could also be different if all the deposit money banks in Nigeria were used as population and a more scientific method - Krejcie and Morgan (1970) or Taro Yamane (1967) formulas were used to determine the sample size.

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APPENDIX 1

Gender Demographic Result from the Respondents

Gender	No
Male	48.8%
Female	51.2%

Source: Field Survey (2022)

Have Indian Deep trade agreements achieved their Export potential- Implications for the future

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Keywords

Trade agreements, export, India

Abstract

The present study investigates the export potential of India's deep & shallow trade agreements over the last two decades by employing stochastic frontier gravity model. The analysis investigates if the level of integration matters. The study further explores if the deep trade agreements supported Indian trade during pandemic times. The study finds that India's deep trade agreements have achieved only 32 percent efficiency over the period of study and have not promoted exports, unlike the shallow trade agreements even during the pandemic.

Introduction

The number of trade agreements (TA) has increased significantly in recent years. More than a third of global trade takes place due to such accords. India has been actively involved in regional and bilateral trade negotiations to diversify and develop its exports while ensuring access to the raw materials needed to boost domestic value-added manufacturing. The growth of Regional Trade Agreements has been a characteristic of the global trading system since the mid-1990s (RTA). The number of RTAs has increased sharply since 1992. The standard economic rationale is that intra-RTA trade should be expanded. If the claim is correct, the level of trade between member countries should be raised. Empirical investigations, on the other hand, show the contrary. Many studies have found that RTAs have failed to generate considerable intra-trade. According to Pant & Sadhukhan (2000), demand and supply considerations are more essential for India's exports than the RTA's pure trade creation or diversion effects. India has embraced regionalism as a building component for trade liberalization as a rapidly growing economy. Before 2000, India primarily concentrated on South Asian countries by signing bilateral free trade agreements, such as one with Sri Lanka in 1998. It bolstered the South Asian Association for Regional Cooperation (SAARC) governments' push for a South Asian Free Trade Agreement (SAFTA). When India authorized Afghanistan's membership in the SAARC in 2003, despite domestic resistance, its political goals were apparent (Pant 2010). After the year 2000, India's priority shifted to forming Comprehensive Economic Cooperation Agreements (CECAs) with Singapore (2005), ASEAN Free Trade Agreements (FTAs) with ASEAN (2009), and Japan Comprehensive Economic Cooperation Agreements (CECAs) (2011). India did not have a bilateral reciprocal preferential trade agreement in 1995. However, it was a member of the Asia-Pacific Trade Agreement (APTA), South Asia Preferential Trade Arrangement (SAPTA), and the Global System of Trade Preferences (GSTP). After 2000, India began negotiating PTAs, beginning with the signing of framework agreements in 2003. India now has bilateral PTAs with Afghanistan (2003), Thailand (2004), Chile (2007), and Nepal (2007). (2009). Like other developing countries, India has been rushing to sign RTAs (FTAs and PTAs) and other deeper economic cooperation agreements to prevent being shut out of important markets.

India's trade performance is insignificant; despite having FTAs and PTAs because India raises tariffs or non-tariff barriers on intermediate goods, the goods that enter India are mainly used to manufacture goods India exports. Any increase in the price of these products raises production expenses and reduces our exports. We further weaken our competitiveness by raising the cost of these crucial inputs, which are already hampered by high transportation, financing, and power costs. India can use incentive structures to ensure exports have higher relative profitability than the rest of the economy. Among the incentive structures were subsidised bank credit, export targets related to long-term financing, export subsidies, and R&D incentives. Export promotion, rather than import substitution, appears to be the driving force behind prosperity in Asia.

On the other hand, India was unable to recreate this export- and investment-led economic strategy. Despite having the inherent strength and ability to achieve considerably more, India's share of global trade in goods was only 2%, according to the WTO. While the services sector has performed well, manufacturing and export growth has been uneven. Manufacturing's share of GDP and employment stayed constant between 1990 and 2020. To boost exports and growth, we must encourage our domestic manufacturing industry. Over the last few years, some significant policy actions have been taken in this direction. First, reducing the corporation tax rate to 22% for all businesses and 15% for new manufacturing businesses will boost domestic production. For the first time, introducing Production-Linked Incentive (PLI) schemes in several critical sectors incentivizes production rather than inputs. These schemes will aid the domestic industry is growing in size and scale. Only by putting a strong focus on exports will the economy be able to recover quickly.

Numerous export policy reforms have been implemented to improve the quality of export commodities and raise global awareness of the "Made in India" brand. Trade agreements in the form of bilateral or multilateral Preferential Trade Agreements (PTA) or Free Trade Agreements (FTA) have become a vital tool for executing the liberalization policies adopted by the Indian government. Such measures assist member countries in maximizing trade efficiency and reaching their trade potential. The present study employs the stochastic frontier (SF) gravity model to assess the effects of deep and shallow trade agreements on India's export potential and efficiency from 2002-2020 and notably during the COVID-19 epidemic. The CEPII variable categorizing RTAs by type, i.e., deep and shallow, is based on actual WTO data. Deep agreements are customs unions and free trade agreements that contain an economic integration pact, whereas economic integration, free trade, and partial scope agreements are all classified as shallow. The fundamental assumption behind the SF model is that no economic agent can exceed the ideal "frontier" that represents its potential and that deviations from this extreme imply individual inefficiencies. As a result, potential refers to the maximum amount of trade that can be done in a frictionless trade situation. In contrast, trade efficiency relates to the extent of the realized trade potential. The findings would provide information about the efficacy of various RTA that may be useful for the policymakers in India, who are currently negotiating various FTAs, in the post-COVID time.

Brief about Trade Agreements

Currently, India has 15 TA³ with various countries/ regions, namely, Japan, South Korea, Singapore, countries of the Association of Southeast Asian Nations (ASEAN) region, and the South Asian Free Trade Agreement (SAFTA) (see Table 1). Within the broad category of RTAs, agreements are further distinguished as follows.

A free trade agreement is an agreement between two or more countries that creates a free trade area. This includes easing international trade restrictions between the countries involved, i.e., reducing or eliminating import duties and tariffs. A preferential trade agreement is a trade agreement between countries that lowers tariffs and other barriers to certain products. The fundamental difference between an FTA and a PTA is that a preferential trade agreement can be unilateral. In other words, PTA is exemptions on trade restrictions from one country to another, without the other country necessarily reciprocating, whereas FTAs require reciprocity. FTAs usually cover services, investments, movement of capital, provisions of goods and people, and trade, removing both tariff and non-tariff barriers to trade. PTA provides preferential market access by reducing import duties on limited quantities of goods. The concept of shallow and deep integration is initially proposed by Lawrence (1996). Shallow RTA is only trade liberalization, including removing trade barriers.

In contrast, deep integration "proceeds by removing boundary constraints" (Lawrence 1996, p. 8). Deep RTA has many provisions, including investment, labour, environmental and intellectual property rights. Agreements identified by CEPII as economic integration agreements, free trade agreements and preferential trade agreements are classified as shallow. In contrast, customs unions and free trade agreements that include an economic integration agreement are classified as deep agreements.

Although preferential tariff clauses are found in almost all trade agreements, most PTAs today cover a wide range of topics besides tariffs, such as services, investments, intellectual property protection, and

³ The study considers bilateral, preferential & free trade agreements, collectively referred to as TA & used interchangeably throughout the paper.

competition policy. Domestic rules are involved in these policy areas (or behind-the-border measures). The agreements are "deeper" in some of these new areas, either because they obligate members to greater levels of market integration than the WTO or because some policy prerogatives are transferred from the national to the supranational level (e.g., the creation of regional standards). Deep integration results in more Trade openness, enhancing policy spillovers, as collective decisions are more effective than unilateral decisions. Deep integration agreements also encourage trade in specific industries. It promotes a global production network requiring a governance framework and reduced tariffs. Since it is challenging to modify domestic regulations to favour only specific trade partners if these agreements primarily result in changes to domestic regulations.

India has deep RTAs with Japan, Malaysia, Singapore, Republic of Korea and ASEAN while shallow agreements with Afghanistan, Bhutan, Chile, Nepal, Sri Lanka, Thailand, SAFTA, APTA, MERCOSUR and GSTP.

Theoretical framework and methodology

The Stochastic Frontier Gravity Model technique analyzed by Kalirajan (2007) in his trade analysis is used in this paper using data from various sources to estimate India's export potential with its 153 trading partners from 2002 to 2020. Table 1 below shows the variables used in this study and the sources from which they are derived.

Table 1: List of Variables

Variable	Definition	Unit of measurement	Source of data
Exports _{jit}	The total exports of India to 153 trading countries	USD Millions	Ministry of Commerce and Industry,GOI
GDP _{it}	Nominal Gross Domestic Product of India's export partner country	USD at constant prices (2015) in Millions	UNCTAD
GDP _{jt}	Exporting country India's Nominal Gross Domestic Product	USD at constant prices (2015) in Millions	UNCTAD
DistCap _{jit}	The geographical distance from India's capital to India's exporting partner country's capital	Kilometres	CEPII Database
REER	Real Effective Exchange rate (Indian currency per US\$)	-	OECD
V _{it}	Randomly distributed error term having mean value of 0 and random variance σ^2	-	-
U _{it}	The non-negative term, which has a truncated normal distribution capturing the domestic exports constraints of India	-	-

Using secondary data, the conventional gravity model has been successful and popular in explaining bilateral trade flows between countries (Yotov et al., 2016). Isard (1954) was the first to apply the traditional gravity model to international trade, arguing that higher GDP and shorter distance between countries will boost bilateral trade flow. The Stochastic Frontier Gravity specification is estimated as follows:

$$\ln Exports_{jit} = \alpha + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 RegQual_{it} + \beta_4 RegQual_{ij} + \beta_5 \ln DistCap_{ji} + \beta_6 [EXR_{jt}/EXR_{it}] + \beta_7 \ln FDI_{j(t-1)} + \beta_8 RTA + V_{it} - U_{it}$$

where \ln represents the natural logarithm

Exports_{jit} represents the total exports from country j (India) to country i for the time period t

GDP_{it} represents Nominal GDP (current US \$) of the importing country i during the time period t

GDP_{jt} represents Nominal GDP (current US \$) of the exporting country j during the time period t

DistCap_{jit} represents distance between the capitals of country j & country i

REER Real Effective Exchange Rate (export based.) (Indian currency per US\$)

RegQual_{it} represents regulatory quality of the importing country

$RegQual_{jt}$ represents regulatory quality of the exporting country

FDI_{jt-1} is the lagged FDI inflows (in current US \$) into country j during the time period $t-1$

V_{it} is the conventional error term with $N(0, \sigma_v^2)$ at period t

U_{it} is one-sided error term which has observation specific mean and variance of its pre-truncated distribution

i is the importing country, j is the exporting country India and t is the time indicator (annual).

Stochastic frontier models enable the analysis of technical inefficiency within production functions. Production units (firms, regions, countries, etc.) are assumed to use standard technology and reach the frontier when they produce the maximum output for a given set of inputs. Inefficiencies can result from structural issues, market imperfections, or other factors that cause countries to produce less than their maximum attainable output (Mastromarco, 2008). Actual output falls below the potential level (the production frontier) as a result of inefficiency, and production costs rise above the minimum level (that is, the cost frontier) (Wang, 2008). SF models have been reformed and developed over time to assess empirical efficiency estimations in the fields of production (Rahman, Mia, & Bhuiyan, 2012), environmental sustainability (Liu et al., 2020), international trade (Rahman, 2010), consumption (Baltas, 2005), power distribution (Leite et al., 2020) and education (Titus & Eagan, 2016) among others. (Titus & Eagan, 2016). The study uses the SF gravity model to capture the technical inefficiency effects of trade agreements on Indian exports based on previous studies (Paudel et al., 2020; Nguyen, 2020; Atif et al., 2019). The model can estimate the technical change in the stochastic frontier and time-varying technical inefficiencies if the inefficiency effects are stochastic (Battese & Coelli, 1995).

The gravity model of international trade states that the trade volume between two countries is proportional to their economic mass and indicates their relative trade frictions. It is anticipated that the distance between the two countries will have a negative impact on merchandise trade (Matallah et al., 2021; Le, 2017). In industries whose transportation costs are less than 4% of the total value, more than 80% of exports take place (Glaeser & Kohlhase, 2004). Therefore, it is expected that increasing distance will have a negative impact on competitiveness and trade when using the distance variable as a proxy for transportation costs.

The GDP of India demonstrates that a high-income level in an exporting country leads to a high production level, which increases the availability of goods for export. The importing country's GDP demonstrates that a high level of income in the importing country suggests higher imports. As a result, the coefficient for both variables is expected to be positive (Kaur & Nanda, 2010; Majeed and Ahmad, 2006; Nguyen, 2010). The REER is the weighted average of NEER adjusted for the domestic-to-foreign price ratio (RBI Bulletin 2005). The negative elasticity of export demand concerning REER implies that real rupee appreciation has a negative impact on Indian exports. (Sharma, 2003; Malhotra & Kumari, 2016; Sato et al., 2020).

FDI has the potential to boost the host country's exports by increasing productivity through capital and technology transfers and improving the competency and quality of the regional workforce (Bezuidenhout et al., 2021; Sultanuzzaman et al., 2018). The regulatory aspect is at the core of today's trade agreements (TAs) (Dau et al., 2021). The regulatory quality statistics compiled by the Heritage Foundation are analyzed and compared to interpret each country's regulatory landscape. The variable does not traditionally play a role in determining trade; nevertheless, in light of the growing significance of institutional quality, it is anticipated that the variable will play a role in determining trade potential. In line with Kumar and Prabhakar's (2017) findings, the current analysis assumes that the higher regulatory quality of importing countries may benefit India's export potential. According to the study's findings, the quality of India's regulatory framework also positively influences the country's exports.

Our principal goal is to evaluate the impact of trade agreements on India's export efficiency. The study considers all the RTAs mentioned above (Table 1). The study looks into the impact of agreements based on their level of integration, such as shallow and deep agreements. The study also considers whether trade in RTAs was more resilient during the Covid-19 downturn.

Table 1: List of RTAs

Agreement	Inception Year	PTA Type
Asia Pacific Trade Agreement (APTA)	1976	Partial Scope Agreement (PSA) and Economic Integration Agreement (EIA)
India- ASEAN	2010	Free Trade Agreement (FTA) and Economic Integration Agreement (EIA)
Global System of Trade Preferences (GSTP)	1989	Partial Scope Agreement (PSA)
MERCOSUR	2009	Partial Scope Agreement (PSA)
South Asian Free Trade Agreement (SAFTA)	2006	Free Trade Agreement (FTA)
India Sri Lanka	2000	Free Trade Agreement (FTA)
India Malaysia	2011	Free Trade Agreement (FTA) and Economic Integration Agreement (EIA)
India Singapore	2005	Free Trade Agreement (FTA) and Economic Integration Agreement (EIA)
Japan India	2011	Free Trade Agreement (FTA) and Economic Integration Agreement (EIA)
India Korea	2010	Free Trade Agreement (FTA) and Economic Integration Agreement (EIA)
India Bhutan	2006	Free Trade Agreement (FTA)
India Afghanistan	2003	Partial Scope Agreement (PSA)
India Chile	2007	Partial Scope Agreement (PSA)
India Nepal Treaty of Trade	2009	Partial Scope Agreement (PSA)
India Thailand	2004	Partial Scope Agreement (PSA)

Empirical Findings & Discussion

Due to the substantial correlation between GDP and the FDI inflow variable, the study employs the exporting country's GDP growth (GDPgr) rather than GDP. To estimate the stochastic frontier production function, the FDI variable is lagged by one year, assuming that the impact of FDI on the manufacturing and export sectors is not immediate.

The findings in Table 2 demonstrate that the market size of India's trading partners significantly influences the country's total exports. The findings also show a statistically significant positive relationship between exports and the GDP rate in India. As a result, increased domestic production serves the foreign market as well. Furthermore, it appears that inward FDI has a significant positive impact on Indian exports. India's manufacturing industry currently accounts for 14-17 per cent of the country's GDP. The manufacturing sector, on the other hand, has enormous potential to become a growth engine for India's economic and export progress by establishing a globally competitive manufacturing hub supported by foreign investment and leveraging the country's advantages in raw materials, manufacturing skills, and entrepreneurship (Kelkar & Kalirajan, 2021; Joumard et al., 2020).

Physical distance negatively and statistically significant impact India's total trade. It emphasises that transportation costs remain a significant issue in global trade. Findings exhibit a significant negative association between REER and Indian exports, consistent with the theoretical relationship of exchange rate appreciation negatively impacting exports.

The regulatory quality reflects the government's perception of developing and enforcing policies that protect private-sector participants while promoting development. Price controls, government regulations, investment freedom, ease of doing business, taxation, trade-related policies, and protectionism are all regulatory qualities. The study assumes that importing countries' regulatory quality will significantly facilitate India's merchandise exports. However, the results show that, contrary to our expectations, regulatory quality in partner countries is promising but does not significantly improve exports. This study backs up Kumar and Prabhakar's (2017) findings, which show that while improved regulatory quality in the importing country makes it easier for Indian exporters to do business, it does not significantly increase imports because it also strengthens the private sector, possibly by attracting FDI.

Furthermore, increased technical regulations in importing countries may impede cross-border trade by prescribing requirements for packaging, marking and labelling, and procedures for demonstrating compliance, among other things, which tend to increase costs for businesses. These costs are borne more frequently by exporting firms through trade barriers. Such barriers are not always deliberate; they result from regulatory differences and contradictions. This necessitates nations to weigh the imposed regulations that facilitate or impede trade with the host countries (UNCTAD,2003). Pre-market harmonisation and mutual recognition allow products legally manufactured and marketed in one country to enter another, assuming both countries accept the standards of the other. Stevens (1993; Nottage et al., 2019).

Moreover, the regulatory quality in India has a significant negative impact on exports. Despite improving its ranking on various indices, India's export performance is unsettling policymakers and industry. India has the fifth - largest economy, but it is the 19th largest merchandise exporter and the eighth largest exporter of commercial services. According to the EXIM report (2020), significant trade barriers are caused by India's regulatory framework, making business difficult. Good regulatory practices, on the other hand, could efficiently address operational bottlenecks. This would let policymakers stay informed about potential operational issues and the policy's influence on exports. In addition, to ensure a robust regulatory mechanism, coordination between the various regulatory bodies is also essential (BIRAC, 2016).

Table 2: Stochastic Frontier Model Estimations

<i>Variables</i>	<i>RTA</i>	<i>FTA/PTA</i>	<i>Shallow RTAs & Deep RTAs</i>
Frontier			
<i>GDP_{Exporting Country}</i>	1.100*** (0.093)	-1.150(0.093)	1.180***(0.092)
<i>GDP_{Importing Country}</i>	0.889*** (0.011)	0.889*** (0.011)	0.824***(0.013)
<i>DistCap_{jit}</i>	-0.566*** (0.040)	-0.566*** (0.040)	-0.767*** (0.035)
<i>REER</i>	-0.002(0.001)	-0.002** (0.001)	-0.002(0.001)
<i>FDI_{it}(t-1)</i>	0.063*(0.038)	0.286(1.362)	0.072*(0.037)
<i>RQ_{Exporting Country}</i>	-1.299*** (0.256)		-1.367*** (0.255)
<i>RQ_{Importing Country}</i>	0.128(0.028)	-0.063*(0.038)	0.010(0.032)
<i>Constant</i>	-1.286*** (1.362)	1.299** (0.256)	-1.826*** (1.093)
<i>Inefficiency</i>		0.128(0.028)	
<i>RTA</i>	-0.761*** (0.92)	-	-
<i>FTA</i>		-1.430*** (0.272)	-
<i>PTA</i>		-1.566** (0.270)	-
<i>Shallow RTA</i>	-	-	-1.815*** (0.667)
<i>Deep RTA</i>	-	-	0.841** (0.387)
<i>Constant</i>	2.166*** (0.840)	1.952* (0.752)	0.753*** (0.192)
<i>Observations</i>	2783	2783	2783
<i>Sigma Squared</i>	0.661 (0.419)	0.573 (0.324)	0.560*** (0.143)
<i>Log-Likelihood</i>	-4966.222	-4765.832	-4950.087

Note: Figures in brackets are standard errors of the estimates; *** refers to significant at the 1% level; ** refers to significant at the 5% level; and * refers to significant at the 10% level

Findings reveal that India's RTAs both FTA and PTAs have significantly promoted Indian exports. However, deep trade agreement has not reduced technical inefficiency of Indian exports. The study further finds that RTAs achieved 42% of TE vis-à-vis 26% among non-RTA partners. FTAs and PTA achieved 46% and 42% TE, respectively. Further categorizing RTAs into deep and shallow reveal that deep agreements overall (2002-2020) achieved 50% TE vis-à-vis 43% in the case of shallow agreements (Fig.1). However, since 2010, the TE of export has been more pronounced under shallow TA (54%) vis-à-vis deep (50%). Data further suggest that only 26% of export transpires through the RTA route, with shallow RTA comprising a higher share, i.e., 68%, compared to deep agreements, i.e., 32% (Fig. 2), suggesting deep TA has much-untapped potential for India to exploit.

Figure:1 Average Technical Efficiency of Exports

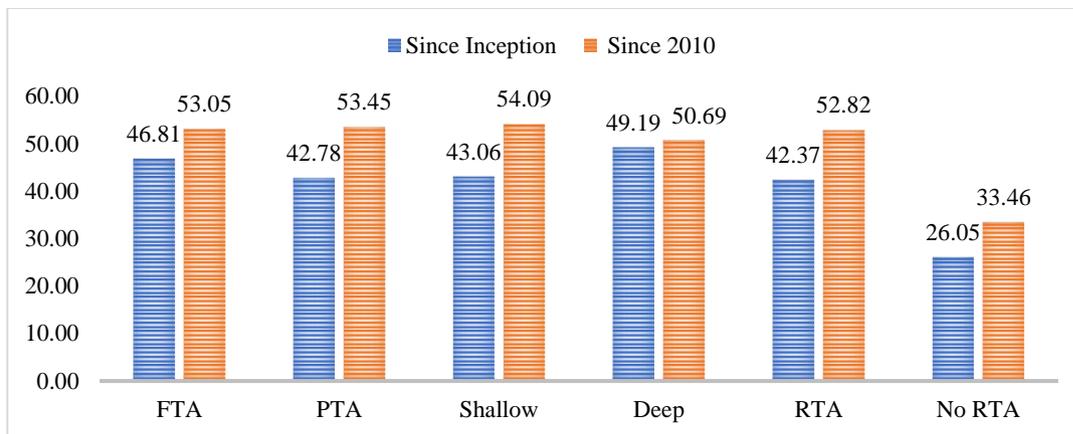
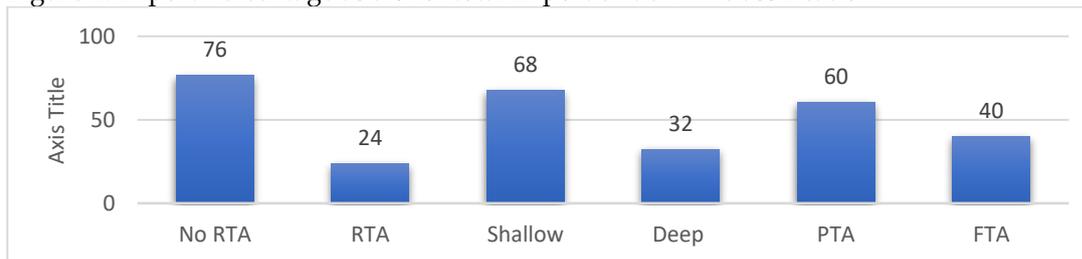


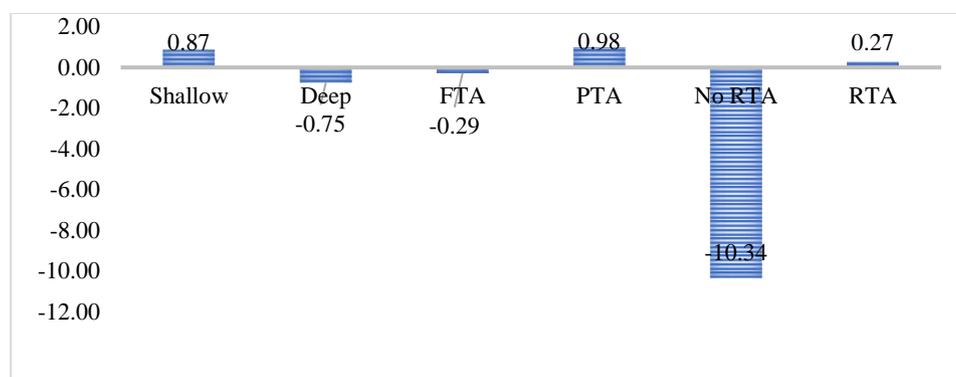
Figure 2: Export Percentage as a % of total Export under TA classification



In the ongoing trade agreements talks with several nations (US, UK, EU, Australia, and Canada), Indian policymakers are negotiating for deeper trade agreements. The study suggest that the negotiations should be diligently planned to include tariff and non-tariff matters related to India’s successful sectors such as agriculture, textile, pharma, leather and various service sectors so that India can export information, financial, medical, tourist, and insurance services to partner nations. Unlike the earlier deep agreements, the newer ones should not result in more imports and exports. India has successfully signed the Comprehensive Economic Partnership Agreement (CEPA), a deep agreement with UAE to facilitate economic growth. The partnership will facilitate the easy flow of investments for both traditional, i.e., SMEs and non-traditional capital, including start-ups and the digital sector. With the signing of the India-UAE CEPA, one of the fastest agreements negotiated between any two countries and India's first complete FTA signed with any country in the decade, India and UAE are standing at a significant inflection point in history. The Indian Government's emphasis is on export promotion in this agreement. It is expected to benefit from preferential market access provided by the UAE, covering over 97% of its tariff lines which account for 99% of Indian exports to the UAE in value terms. UAE is India's third-largest trading partner and second-largest export destination after the USA. The CEPA is expected to enhance this robust trade relationship between the two countries and could boost merchandise trade to \$100 billion over the next five years, against \$29 billion in 2019-20. It is also expected that the CEPA would generate 1 million jobs across multiple labour-intensive sectors, among other things, gems and jewellery, textiles, leather, footwear, furniture, agriculture and food products, plastics, engineering goods, and pharmaceuticals, medical devices, and sports goods (Barad & Singhania, 2022).

During the COVID-19 pandemic (2020), India's total exports declined by 7%, which was inevitable given the global trade disruption. Intra-RTA trade has been more resilient over this period. In comparison to non-RTA trade (-10.34 %), India's exports to RTA partners performed better (+0.27 %) (Fig.3). PTAs (+0.98%) and shallow trade agreements (+0.87%), as opposed to deep trade agreements (-0.75%) and FTAs (-0.29%), helped India mitigate the fall in exports (Fig. 3). The findings corroborate with UNCTAD's (2021) results, indicating that deep trade agreements were more impactful in mitigating trade downturn in developed nations but had a heterogeneous impact across developing countries.

Figure 3: Average Export Growth in 2020



Conclusion

The trade under RTA has shown more resilience during the COVID-19 downturn. It exemplifies one of the goals of governments creating RTAs i.e., to reduce trade volatility. Findings suggest shallow TAs have significantly promoted India's exports vis-à-vis deep TAs. Deep trade deals with ASEAN, South Korea, and Japan have been viewed as harmful to India while significantly benefiting trading partners. Previous FTAs focusing more on products than services, which are India's strengths, have contributed to trade imbalances. Trade literature considers deep TA an essential tool for regional institutional integration. Well-designed deep agreements support policy collaboration among countries, lower trading costs, and increase international commerce and investment, economic growth, and social welfare (Maliszewska et al., 2018; Mattoo et al., 2017). Deep TA, on average, enhances goods trade by more than 35%, services trade by more than 15%, and GVC integration by more than 10% (World Bank, 2018). The study suggests that India must aggressively negotiate for deep integrated RTAs with developed nations who are eagerly looking forward to China plus one policy. The ongoing talks with developed nations will undoubtedly help encourage exports and promote India as a global export hub, provided Indian policymakers also interlink nations' foreign trade policy with FDI and industrial policies.

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The Relationship between efficiency of education and economic development: A comparative study

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Abstract

In the last years governments are working towards improving their economic development stance among countries, while also working on achieving their set sustainable development goals in different sectors. One of those sectors that plays a vital role in enhancing and improving economic development ranks is education. However, countries are not paying enough attention on improving and developing their education system through neither increasing their spending on developing and improving their education sector nor paying attention on assessing their efficiency performance in education. Therefore, the aim of this paper is to study the impact of efficiency of education on economic development through on selected Asian and North African countries from the period of 2000-2021. In which the results of this study have showed that the efficiency of education determinants has a positive impact on spurring economic development. The outcomes of the study have also indicated that the countries who recorded higher efficiency of education and thus higher economic development rate are the countries that are concentrated in Asia. On the other hand, North African countries had low rates of education efficiency and lagged behind in the economic development ranks compared to Asian Countries this was due to the characteristics of their education system which was acknowledged by being underdeveloped infrastructure, traditional learning tools, and low government spending.

Introduction

Currently countries are increasing their investment in education sector each year to enhance and improve their economic development ranks, since education plays a crucial role in promoting economic development (Glewwe et al 2014). However, countries are mainly focusing on increasing their spending on education while paying less attention on assessing their efficiency performance in education.

Efficiency can be described as the optimal use of resources to obtain the maximum output from these allocated resources, while ensuring that this process promotes economic growth and development (Lavado and Cabanda 2009). Therefore, input-output efficiency is a crucial analysis to evaluate their education spending effect on efficiency performance and economic development.

However, developing countries experienced almost no critical development throughout the past years. Therefore, most developing countries formulated its national long-term vision, which encompassed setting a new strategy for all sectors in the economy including education system that aims at improving the learning and teaching conditions, ensuring equal access to education, promoting high quality of education, and introducing digital and advanced learning tools (World Bank, 2019).

Since education is one of the drivers of economic development, investing and developing in the education sector that based on equal access to education with a good education quality and an efficient implementation system can promote economic efficiency and development.

It is worth mentioning that there are very few studies that have tackled specifically the concept of "Efficiency of Education" in relationship to "Economic Development". Even the couple of studies that analyzed the impact of efficiency of education on economic development neglected and didn't take into

consideration developing countries as part of their study sample especially the Middle East and North Africa region, while focused mainly on developing countries.

Thus, this study aimed at bridging the gap in literature and focusing on measuring and assessing the relationship between efficiency of education and economic development and especially across developing countries in the North African Countries and compare their performance with Asian countries. Accordingly, the study has employed the panel regression model across selected 10 countries from the African and Asian Countries in order to assess the relationship between the efficiency of education and Economic development.

2. Theoretical Overview of Theories and Objectives of Economic Development

Economic development throughout the past years have gone through many changes and was assessed from many angles in order to capture what is really meant by economic development and how can countries achieve economic development. Many scholars have agreed that economic development process is a "Multidimensional Process" that takes into consideration several factors in order to achieve economic development. Accordingly, this chapter will present the literature review of the history of economic development concept, theories, goals, and measures throughout the past years and until present. In which the first section of this chapter will introduce the different definitions and concepts of "Economic Development" according to prominent economists. Then the second section will present the evolution of economic development theories. Finally, the third section will move towards a more capturing and concrete measure which aims at introducing the transitional phases of Economic development goals, its measures and Indicators.

2.1 Defining "Economic Development" Concept

The term "Development" throughout the history had various perspectives and definitions, since many economies had difficulties in identifying a concrete and fixed definition for the term "Development". This caused economists to start defining the term "Development".

Before the 1950s, traditional economies defined and conceptualized development as "The process of achieving "a sustained income per capita growth rates" to allow nations to achieve higher output growth rate" (Todaro and Smith 2011). Traditional economies at that time perceived development from a very narrow standpoint and solely focusing on one dimension of development which is achieving persistent income per capita growth rate, while neglecting economic development issues and factors that are included in the development process such as, income distribution, poverty, and unemployment.

During the 1950s until 1960s, economies has started to realize that they achieved the targeted income per capita growth rates, yet economic issues such as poverty, unemployment, and income distribution weren't solved, and the standard of living remained unchanged (Maryann Feldman 2014). This caused economies to question the traditional concept of economic development and the concept of "Trickle Down Effect" and recognize the traditional development concept as being a very narrow definition of development. In the 1970s, Dudley Seers stressed on considering other development dimensions in achieving economic development and not to solely rely on achieving high income per capita growth rate. In 1980 and 1990s, the developing economies deteriorated in which Denis Goulet urged economies to start perceiving the process of economic development as a "Multidimensional Process" in order to overcome these harsh economic obstacles.

During 1998, the eminent economist and Nobel Prize winner, Amartya Sen introduced an intellectual shift in perceiving the development concept in which he focused on two new angels in the development process which highlights that individuals are the core focus in economic development and that development is a "Multidimensional Process". The concept and approach of "Capability to function" which he highlights as a very crucial element in achieving development. Amartya Sen believed that focusing on "Output" as traditional economies believed isn't sufficient to achieve development (Jon Hall & John Helliwell 2014) and that the availability of commodities in the economy as a result of focusing on increasing output level is useless, unless an individual has the "Capability to functioning" and can make use of these commodities or services according to the characteristics these individuals hold.

This multidimensional process that takes into consideration the enhancement of more than one factor beside income, will consequently achieve economic development since the main objective of economic

development is achieving a better standard of living for individuals through improving the above-mentioned factors (Hoda Ali 2018).

In all the previous eras, development was conceived as the process that aimed at achieving a better standard of living for individuals. The question of what exactly constitute a better standard of living drove economists to define the three core values of development that achieve a better standard of living which include: Sustenance, Self-Esteem, and Freedom of Servitude (W.Arthur Lewis).

2.2 A Close Eye on: The evolution of Economic Development Theories

Economic development theories have undergone progress and development throughout the past years, in which these theories can be classified into two main categories which is the classical and modern economic development theories. After the Second World War, classical economic development theories began to focus on developing countries regarding how they can achieve economic development. In which these theories have mainly relied on four main approaches. Each approach has presented a distinguished perceptions and channels of how to achieve development.

During the 1950s and 1960s, economists believed that in order for a developing country to achieve economic development and transform into a developed country, they need to undergo the same process that developed countries have gone through back then when they were developing countries. In addition, developing countries must also transform from being heavily relying on primary agricultural sector and to start focusing on developing their industrial sector which unlike the agricultural sector, causes an increasing rate of growth. These assumptions were derived from the Linear Stages of Growth Models which were well-known by the two main theories: Rostow stages of Economic Growth and Harrod-Domar Growth Model.

In the 1970s, the rise of the Structural Changes Models came to take into consideration the structural and institutional differences that were neglected in the linear stages of growth model. In which the structural changes models assumed that in order for the under developing economy to grasp the amount of capital formation and investment to achieve economic growth, it needs to change its economic structural and institutional framework (Mario Coccia 2019). However, structural changes models also considered economic growth as an important factor of development. However, it believed that in order for developing countries to achieve economic development, they need to transform from being an agriculture-based economy to an industrialized economy.

After the structural change models, came the International Dependency Theories which were inspired by Marx's Ideology and gained a lot of attention and support from the developing countries (Osakue Omoera 2019). These theories focused on the constraints that the developing countries face and how it can tackle these constraints rather than presenting a process of development. These constraints were both international and domestic constraints. In addition to, the lower level of capital formation in which the developing countries encounter and accordingly hamper them from achieving development. These constraints are the economic, institutional, and political structure that the developing countries obtain. In addition, these models tend to encourage closed economy to achieve development, since they advise less dependency of the developing countries on developed countries. However, the International Dependency Theories, the models don't provide the information on how can developing countries achieve development.

In the 1980s, The Neoclassical Counter Revolution approach appeared in the 1980s with a total opposing ideology to that of International Dependence Revolution theories (Łukasz Piętak 2014). The neoclassical counter revolution school gained the attention and the support from the developed countries and international organizations. In contrast to the International Dependence Revolution theories, the Neoclassical counter revolution approach called for promoting "Free competitive markets" and that the developing countries must transform from relying on closed economies and to start to open and free their markets in order to attract domestic and foreign investments, increase capital accumulation, and accordingly achieving economic development and growth.

The Modern Theories of Development during the late 1990s started to perceive development as a more challenging process to be obtained and that development process encounters more barriers compared to previous eras. In which, it sheds lights on the negative consequences of being an open economy and the importance of government intervention in achieving development.

3. Efficiency in Education : Concept and Determinates

3.1 The Concept of Efficiency

Throughout the literature review it happens to be that there are many scholars and economists who were interested in the “Efficiency” concept and tried to define it. The most well-known economist whose name was associated directly with efficiency is the Italian economist Pareto who developed a formulation of efficiency concept known as “Pareto Efficiency or Optimization.” According to Pareto, efficiency is related to the “Distribution of Resource or Resources Allocation” which can be applied when studying the efficiency of the producer, the consumer, or the economy as a whole. Pareto perceived “Efficiency” as the state at which an economy is optimizing all its resources to meet generations’ needs and that resources are being efficiently allocated to ensure that a consumer is satisfied without decreasing the satisfaction of another consumer (Griffiths and Wall 2000).

Peter Drucker referred to efficiency as “Doing Things Right” and focused in his definition on the aspect of activities and inputs that determine efficiency. The Asian Productivity Organization provides a similar definition of Efficiency as: “Doing things right at the right time, in the right place, and by qualified people.” Thus, efficiency is concerned with doing business with being economic oriented in terms of effort, time, labor and money (Simpas, Garcia and Ramiro 1981).

Achabal and Chan in their definition of efficiency they focus on inputs. In which Achabal believes that efficiency refers to “An organization’s ability to allocate resources and reduce costs to a minimum.” On the other hand, Chan defines efficiency as “The optimal use of resources in a way that saves money and time, thus improving the organization’s performance. In other words, Chan sees efficiency as the “ratio of the resources expected to be used, and those that have actually been used (Ibid).

Both Lusthaus et al. and Amitai Etzioni elaborated more on the efficiency definition of “Sumanth” in terms of the relationship between input and output. Amitai Etzioni defines efficiency as “The number of resources used to produce one unit of output” while Lusthaus et al defines efficiency as “The organization's ability to achieve desired results through the optimal use of the resources available.”

3.2 The Progress of Economic Development Goals & Determinants of the Efficiency of the Education Sector

By time, some incidents have emerged that grabbed the attention of not only scholars but also the international community to start critically think of how these incidents may affect our lives, the future generation’s resources and its importance in achieving economic development. These incidents were more vivid during the industrial revolution when economies witnessed growth and development in production which led to depletion of natural resources that negatively impacted economies (Kates and Parris 2003).

In which many countries started to notice the importance of preserving our natural resources. In parallel, other problems such as poverty, inequality, food and energy shortages, literacy, unemployment and health have augmented and persisted, causing lower economic growth rates and hampering economic development. This urged countries to start looking for a way that can solve these persistent issues and to start reanalyzing their stance in the ecosystem and look for new long-term plans that preserve resources for the current and future generations (Longyu, Linwei, Fengmei, & Lijie 2019) and to start to have a concrete measure, goals, and means to economic development.

International Organizations started introducing the Millennium Development Goals as a mandate for countries to follow. The MDGs include eradicate extreme poverty and hunger, achieve universal primary education, promote gender equality and empower women, reduce child mortality, improve maternal health, combat HIV/AIDS, malaria, and other diseases, ensure environmental sustainability and develop a global partnership for development. Later on, the concept of sustainability was introduced by the United Nations in 2015 through achieving “Sustainable Development Goals” by 2030. The SDGs goals consist of 17 goals as that include: No Poverty, Zero Hunger, Good Health and Well-being, Gender Equality, Clean Water and Sanitation, Affordable and Clean Energy, Decent Work and Economic Growth, Industry, Innovation and Infrastructure, Reduced Inequality, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water, Life on Land, Peace and Justice, Strong Institutions, and Partnerships to achieve the Goal, and Quality of Education.

Since Education became a required dimension to achieve sustainable development goals set by the United Nations in which countries must abide by and work towards. Accordingly, governments invest heavily in human capital development through education and since it will contribute positively to the

country's economic, social, and environmental levels in which according (Fabrizio Carmignani 2016), An educated person who is enlightened and knowledgeable will be able to add value to the economy through his productivity and acquired skills, while helping the surrounded communities and fitting more easily in the society.

While governments around the world have started to expand their dedicated budgets to enhance and develop their education sector, they came at a point where they need to start assessing how "Efficient" is their investments and public expenditure they are spending on the education sector since most countries are looking forward to increasing their efficiency level of these investments which became a goal where several countries are trying to reach.

In order to analyse the efficiency level of education, we need to understand how efficiency can be reflected and applied in the education sector. In other words, what determines efficiency of education? Since the common factor between almost all definitions of "Efficiency" is the inputs and outputs relationship to achieve efficiency, so will be the determinants of efficiency of education. According to the literature, the determinants of efficiency of education can be classified into inputs and outputs.

The most common determinates of efficiency in the education sector which constitute the most commonly used inputs and outputs of the education system is Public Expenditure "Monetary Input": Public expenditure is considered one of the most important inputs of the education system. Basically, it is how much does a government spend on the education sector in order to provide it with all its needed facilitates, services, and utilities to improve and develop it. It is worth mentioning that public spending or expenditure on education is one of the necessary variables being used by researchers to measure efficiency in the education sector (Cuellar 2014).

Classes Size is a non-monetary education input used to measure efficiency of the educational system. A crowded classroom will hamper teacher to provide equal attention to the large number of students and recognize the individual differences between students, while making it difficult for students to comprehend the lessons conducted by teachers(Cuellar 2014).

Also known as the Students/Teacher ratio is another important indicator and efficiency input of the educational system. This ratio is the number of students or share of students allocated for a teacher. The less the share of students allocated for a teacher, the more the teachers are giving more attention to the students and thus the higher the probability of education achievement (Afonso and Aubyn 2006).

The physical condition of schools is one of the determining factors for the success or failure of education to achieve its goals. The quantitative and qualitative deficiency in buildings leads to inconvenient and unhealthy education atmosphere for students and thus causing deteriorations in the quality of education. Sometimes the condition of schools not only negatively impact the education quality or achievement but sometimes causes a threat to students' lives and consequently affecting the efficiency level of the education system (Ruggiero 1995).

Teachers play an important role in the students' education quality since they are the main source of transcending information and the main player in the education process (Afonso and Aubyn 2006). A qualified, trained, knowledgeable teacher will positively impact the students' academic achievement. Curricula also represent the core of the educational process and a main tool for achieving the set targets of the educational system in general, while impacting the efficiency of the education system. The Curricula are a crucial input in the education system and should not only be designed to tackle one dimension which is basically knowledge, but also should take into account other factors that nourish students' wellbeing such as psychological and social aspects(Ruggiero 1995).

As for the outputs of education, the literacy rate which basically measures the number of people who can write and read within a population or a target age group. The literacy rate is a very good indicator and output of the education system (Cuellar 2014). In which literacy rate can reflect the efficiency of the education system output, in other words if the inputs of an education system are allocated efficiently and optimally the literacy rate should then be at a higher rate and the vice versa.

Enrolment rate is one of the main outputs that reflects the extent of efficiency an education system obtains (Afonso and Aubyn 2006). Enrolment rate is basically the number of students of the official age group of the population that are currently enrolled at any level of education. With the increase of enrolment rate at any levels of education, this means that the education output is maximized.

Repetition rates are among the important education output indicators that is basically when student is unable to pass tests and accordingly do not get nominated to the next education level. Repetition rate is also another main reason that drives students to not complete their studies since they get demotivated from their failure in the tests (Agasisti, 2014).

The unemployment rate is one of the reflective outputs of the efficiency of education system (Agasisti, 2014). An efficient education system will meet the needs of the goals it is set for in the first place. An efficient education system will meet the labour market needs through equipping and preparing students with the needed skills and knowledge of the labour market and to be able to perform in the companies and consequently drive economic growth and development. Actually, unemployment rate is the number of people within the working age group who doesn't acquire a job although they have the intention and willing to work

4. Assessment of the impact of education efficiency on economic development in selected Asian and North African Countries: A Comparative Study Approach.

4.1 Introduction

In order to assess and measure the impact of efficiency of education on economic development, this chapter will use empirical approach through employing a panel regression model to examine the relationship between education and economic development in selected Asian and North African Countries from the period of 2000 till 2021. The study has selected the North African Countries since there are very few studied tackled this region and compared it with Asian Countries education efficiency performance.

In addition, the study will select the Human Development Index as the dependent variable and a proxy to reflect economic development since this index takes into account the countries performance in education, income, and health sectors. In addition, the study will measure education efficiency through the following independent variables, which is education enrollment represented by (secondary and tertiary enrollment), literacy rate, unemployment, pupil to teacher ratios (secondary, and tertiary) and government expenditure on education. The control variables are foreign direct investment and inflation rate.

4.2 The Model

The regression model is constructed as follows:

$$HDI_{it} = \beta_0 + \beta_1 \text{Secondary enrollment}_{it} + \beta_2 \text{Pupil to teacher ratio secondary}_{it} + \beta_3 \text{Tertiary enrollment}_{it} + \beta_4 \text{Pupil to teacher ratio tertiary}_{it} + \beta_5 \text{literacy rate}_{it} + \beta_6 \text{government expenditure}_{it} + \beta_8 * FDI_{it} + \beta_9 * \text{inflation}_{it} + \beta_{10} * \text{unemployment rate}_{it} + \mu_i + \varepsilon_{it}$$

Variables:

Human Development Index (HDI): "HDI is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions" (UNDP, 2019).

Tertiary Enrollment (TE): "The number of students enrolled in a level (Tertiary educational institutions) regardless of age and sex" (OECD Data).

Secondary Enrollment (SE): "The number of children enrolled in a level (primary or secondary schools) regardless of age and sex" (UNESCO Data).

Literacy Rate (LR): "Total number of literate persons in a given age group, expressed as a percentage of the total population in that age group" (UNESCO Data).

Government Expenditure on Education (INV): "Total Public Expenditure on Education" (OECD Data).

Pupil to Teacher Ratio Secondary: "is the number of students per teacher in secondary school". (World Bank Data).

Pupil to Teacher Ratio Tertiary: "is the number of students per teacher in tertiary education". (World Bank Data).

Unemployment Rate: is the number of people within the working age group who doesn't acquire a job although they have the intention and willing to work (ILO).

Inflation rate (INF): "Is the annual percentage change in (CPI) Consumer Price Index". (World Bank Data).

Foreign Direct Investment (FDI): “is the net inflows of investment coming to an economy” (World Bank Data).

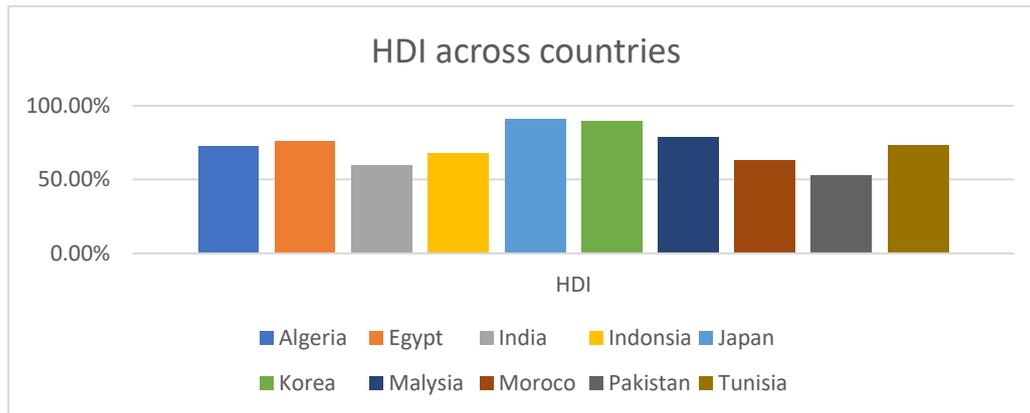
4.3 “Overview of the Variables performance according to countries.”

This section will illustrate the variables trends across 10 countries including Asian Countries: India, Japan, Indonesia, Korea, Malaysia, and Pakistan, while the North African Countries: Egypt, Algeria, Tunisia, and Morocco.

4.3.1 “Dependent Variable Across Countries”:

From the following graph it is clear that:
Highest average of HDI is in Japan, while the least is in Pakistan.

Figure 4.7 1: HDI Across Countries



4.3.2 Independent Variable Across Countries:

From the following graph it is clear that :

Highest average of secondary education enrollment is in Japan, while the least is in Pakistan.

Highest average of pupil-teacher secondary is in India, while the least is in Japan.

Highest average of tertiary education school enrollment is in Japan, while the least is in Pakistan.

Highest average of pupil-teacher tertiary is in Korea, while the least is in Pakistan.

Highest average of Literacy rate is in Japan, while the least is in Morocco.

Highest average of government expenditure % of GDP is in Malaysia, while the least is in Japan.

Highest average of unemployment rate is in Algeria, while the least average is in Pakistan.

Figure 4.8 1: Independent Variables Across Countries

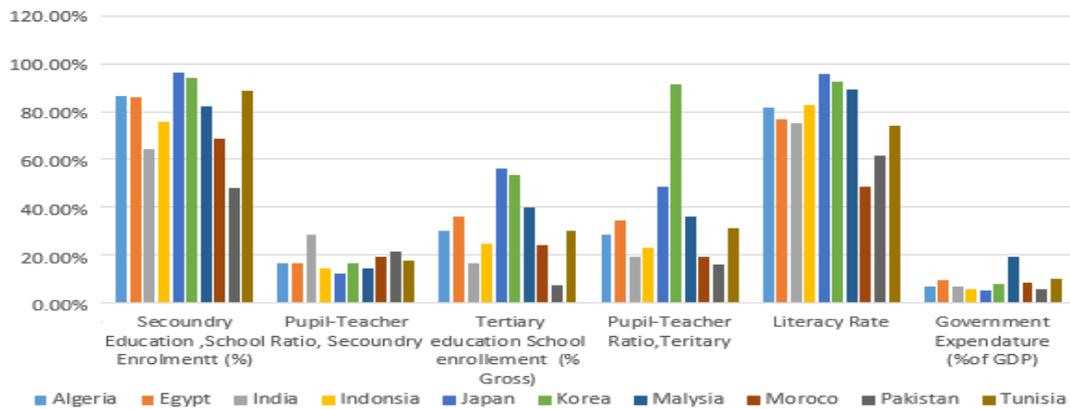
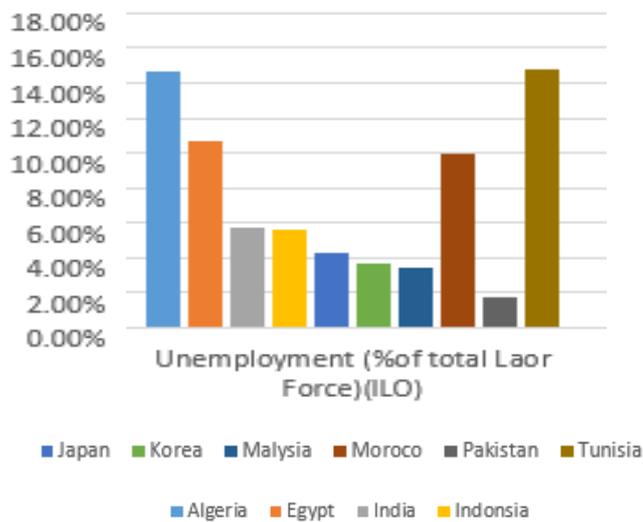


Figure 4.9 1: Unemployment Across Countries.



4.4 “The Results of the Model “ The relationship between HDI and efficiency of education variables”

After conducting the necessary tests and choosing the type of regression model that suits our model parameters. The Panel Regression Model Analysis will be based on selecting Fixed Effect Model and then adopting the GMM model to correct for any serial correlation problems. In addition, the robust estimation will also be taken into consideration in order to tackle the heteroscedasticity problem. It is worth mentioning that the regression model aims at measuring and assessing the Relationship between HDI (Proxy to Human Development) and efficiency of education variables. In which the Results of the regression can be shown in the below table:

Table 4.4 1: Results of fixed-effect model with confidence level 95%:

	Fixed effect
VARIABLES	HDI
Secondary Education School Enrollment	0.00261*** (0.000284)
Pupil Teacher Ratio Secondary	-0.00270*** (0.000678)
Tertiary education School enrollment	0.00413*** (0.000914)
Pupil Teacher Ratio Tertiary	0.00150*** (0.000281)
Literacy Rate	0.000261*** (9.77e-05)
Government Expenditure of GDP	0.00325*** (0.000777)
Unemployment	-0.00678*** (0.00139)
Foreign Direct Investment US	0.000214 (0.000212)
Inflation Average Consumer prices	-0.00219*** (0.000322)
L.HDI	
Constant	0.543*** (0.0265)
Observations	220
R-squared	0.629
Number of Countries	10
Robust standard errors in parentheses	
*** p<0.01, ** p<0.05, * p<0.1	

According to the results of the regression model, almost all Education Efficiency Variables had a Positive and Significant effect on HDI. This result was expected since the literature review has backed up the role of education in spurring economic development. Secondary education school enrollment, Tertiary education School enrollment, Literacy Rate, Government expenditure, Pupil teacher ratio tertiary, had a significant positive impact on HDI. In addition, the model had recorded the Adjusted R-square is 0.627 this means that the estimated fixed effect model explains around 62.7% of the variation in the HDI. In other words, the dependent variable is explained by the independent variables by 62.7%.

While on the other hand, Unemployment Rate had a negative and significant impact on HDI since economic theories has also stated that unemployment rates negatively affect the economic development of countries and in some cases, it can also drive to extreme poverty while wasting resources and draining of skills.

As for the Control Variables, The FDI had insignificant positive impact on HDI since FDI can contributes in attracting more jobs to the local economy, while inflation has significant negative impact on HDI since and according to Phillips curve there is an inverse relationship between Unemployment and Inflation and the higher the inflation gets the more it causes unemployment that negatively affects the economic development.

It is worth mentioning that North African countries compared to the Asian Countries has the least rates when it comes to efficiency of education variables and thus North African countries lag behind in their economic development performance which reflected in their low scores of the Human Development Index. The low rates of efficiency of education in the North African countries were due to the characteristics of their education system which was acknowledged by being not up to date, underdeveloped infrastructure, traditional learning tools, and low government spending.

While on the other hand, Asian Countries pay more attention on spending on education and even focusing more on enhancing the quality of education through making sure that Pupil to teacher ratio is low, providing up to date learning tools, diversifying curriculum, offering different types of tests, etc. Therefore,

high efficiency of education that consequently yields to promoting economic development is achieved within Asian Countries.

5. Conclusion

Throughout the years and according to the literature, economic development concept has undergone changes until it had proved through the evolution of economic development theories that development is a multidimensional process that requires different angles and factors to be taken into consideration in order to promote development and to support countries' economies. In fact, promoting economic development had yield constructive contribution on flourishing economies. Accordingly, countries have diverted from only concentrating on achieving economic growth to working towards achieving economic development.

This has led international organization to start acknowledging the gains and fruitful yields that economic development has promoted. Therefore, development goals and measures has been introduced by international organization for countries and governments to start applying in their long-term national agendas, aiming at enhancing and developing almost all sectors and fields of their economies.

Like economic development theories, also development goals had gone through changes until settling on the most common and prominent goals of development which is introduced by the United Nation and known for the Sustainable development Goals (SDGs). The SDGs became a mandate for countries to achieve through given a set of targets in each field such as: reducing poverty, improving education, and etc.

In fact, one of the most important factors that spurs economic development is education and especially when you focus on efficiency of education. Since Efficiency is a term that has caught much of the attention of economists since long time ago and by the time the natural resources became scarcer and not utilized efficiently to meet the current and the future generation needs, countries have been focusing on being "Efficient" to achieve growth and sustainable development.

Efficiency can be implemented and reflected in many sectors, however this study has presented how efficiency can be reflected and applied to the education sector and what are the measures and determinants of efficiency in education, since education is an indicator and a main driver to economic development.

After reviewing the literature review, studies proved that there is a positive relationship between efficiency of education/education and economic development, which validates the economic theories that were reviewed in previous sections from prominent scholars who confirmed that there is a positive relationship between efficiency of education and economic development.

Accordingly, the study measured education efficiency through the following independent variables, which is education enrollment represented by (secondary and tertiary enrollment), literacy rate, unemployment, pupil to teacher ratios (secondary, and tertiary) and government expenditure on education. On the other hand, the Human Development Index was selected as the dependent variable and a proxy to reflect economic development. The control variables are foreign direct investment and inflation rate.

After running the Panel Regression model on the 10 selected Asian and North African Countries, it happens to be that the selected independent variables which reflect the efficiency of education which are: Government expenditure, literacy rate, unemployment, secondary enrollment, tertiary enrollment, Pupil to teacher ratio secondary has positive and significant impact on economic development which is represented by the Human Development Index. The Panel regression model recorded adjusted R-square is 0.627 which means that the estimated fixed effect model explains around 62.7% of the variation in the HDI. In other words, the dependent variable is explained by the independent variables by 62.7%.

The outcomes indicated that Asian countries had higher rates of efficiency of education and thus higher economic development stance. On the Contrary, North African countries had low rates of education efficiency and lagged behind in the economic development ranks compared to Asian Countries this was due to the characteristics of their education system which was acknowledged by being underdeveloped infrastructure, traditional learning tools, and low government spending.

Finally, investing in education and paying attention to obtain the maximum output of education given a set of education inputs in other words increasing efficiency and the quality of education is a promising process that promote economic development for economies and achieving the sustainable development goals and targets set for each country.

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Does Green Brand Positioning Limit Carbon Emissions in Egypt? New Evidence from PLS – SEM Method

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Keywords

Carbon Emissions, Green Brand positioning, Green Purchase Intention, Sustainability, SmartPLS

Abstract

Sustainability has now emerged as a critical priority for businesses. With consumers' increasing concern about the environment, many businesses are fast investigating and exploring new approaches, creating new ideas, and preparing different approaches to position their green brands in the minds of the customers as a solution for environmental problems. This study contributes to the literature by the being among the first to test the impact of green purchase intention on carbon emissions in Egypt. A new conceptual framework was formed by integrating three important theories: theory of planned behaviour (TPB), Cognition–affection–behavior theory of attitude (CAB) and Value Belief Norm (VBN) theory of environmentalism. The proposed model incorporates green brand positioning, consumer's green attitude, perceived environmental knowledge, green behaviour, green brand knowledge, and green purchase intention as main factors. A questionnaire was designed, and we obtain 231 eligible responses. We used PLS – SEM method to test the validity and reliability of the measurement model and then testing the hypotheses using structural equation model. The finding revealed that higher consumer's intention to purchase green brands (GPI) would lead to lower carbon emissions (CE) and thus improve the environmental quality. We found also a positive and significant effect of consumers' attitude (GA) towards green brands and green behaviour on consumers' intention to purchase green brands (GPI). On the other hand, green brand positioning (GBP), perceived environmental risks (PEK), and green brand knowledge (GBK) have insignificant impact on consumers' intention to purchase green brands in Egypt. Moreover, the results showed that perceived environmental knowledge (PEK) and green brand knowledge (GBK) have indirect effect on consumer's intention to purchase green products through their effect on consumers' attitude and thus CGA is said to play a significant intermediary role. Furthermore, GBK is said to mediate the relation between GBP and GPI.

Introduction

Global warming has been recognized by the international community since the 1970s, but the topic was reintroduced and became a concern in the 1990s (Iwan, 2013). Global warming is a type of ecological imbalance that occurs on Earth due to increase in the temperatures of the atmosphere, the oceans, and the earth, which is produced by an increase in gas emissions such as Carbon dioxide (CO₂), methane, and water vapour in the atmosphere (Utina, 2009). With the objective of overcoming environmental problems, the United Nations (UN) have set 17 sustainable development Goals (SDGs) to promote better life for all people. SDG goal number 13, which is based on climate change and environmental protection, is now capturing the interest of researchers, policymakers, government officials, international organizations, and practitioners due to rising sea levels, changing weather patterns and increasing levels of carbon emissions (Siyal et al. 2021). These climatic changes have made the Consumers increasingly aware of the critical situation of the environment to preserve nature. Such circumstances eventually result in an increase in green consumption behavior that has begun when consumers became aware that they have the right to buy a good, safe, and environmentally friendly product.

The openness of the global market, on the other hand, encourages a high degree of competition, which results in a high-quality product. Consumer behaviour has changed as the focus shifts from consumption of traditional products to environmentally friendly product. In other words, Consumers are changing their lifestyle to be green or to enjoy "green" way of life. As a result, demand for green products and services

provided by green businesses increases. Meanwhile, consumer preference for green products has become the driving force to encourage more companies to improve their environmental performance in the marketplace (Liu et al., 2012; Kumar, 2017). This environmental consciousness now compels businesses to upgrade their techniques, develop products to more environmentally friendly in accordance with the SDGs' principles. Numerous businesses are now communicating explicitly how they include sustainability into their business processes and marketing function (Raska & Shaw, 2012; Royne et al., 2011) by positioning their products as green brands. Green positioning can be defined as the set of features, advantages, and environmental aspect that persuade green customers to choose green products over other options (Hartmann and Apaolaza, 2006). Huang et al. (2014) suggested that along with green brand positioning (GBP) there are other factors that can influence the customers green purchase intentions such as the green brand knowledge (GBK), attitude toward green brands (GA), green behavior (GB) and perceived environmental knowledge (PEK). Thus, this study aims to assess the impact of Green Brand Knowledge, Attitude toward Green Brand, Green behavior on purchase intention and explain how green purchase intention can limit carbon emissions in Egypt.

The contribution of this paper has three-fold. First, to the best of our knowledge, this study is among the first that empirically tested and validated the significant relationship of green purchase intention and carbon emissions through the formation of a new conceptual framework. *Secondly*, this study added to the literature through examining the moderating effect of GBK on the relation between GBP and GPI in an emerging country. *Thirdly*, the new conceptual framework was based on the integration of three important theories in this discipline which are theory of planned behaviour (TPB), Cognition–affection–behavior theory of attitude (CAB) and Value Belief Norm (VBN) theory of environmentalism. Finally, this paper extends the research on the environment from the perspective of green purchase intention which makes it possible to excavate deeper into the relationship between green brand positioning and carbon emission and to draw more explicit policy implications for environmental sustainability.

Theoretical foundation and hypothesis development:

Theory of Planned Behaviour (TPB)

The Theory of Reasoned Action (TRA 1986) has been extensively used to explain behavioural beliefs that shape person's attitude and intention towards an objective (Fishbein & Ajzen, 1975). More recently, TRA has been used heavily to study consumers' green behaviour and their green purchase intention (Al-Swidi and Saleh, 2021; Wang et al. 2021; and Ramayah et al. 2012). However, the lack of measurement variables that can predict behaviours leads to the development of the theory of planned behaviour (TPB) as an extended model from TRA model that added new measurable variables such as perceived behavioural control variables (Ajzen, 1991). The TPB explains the impacts of behavioural factors such as attitudes, environmental psychology or environmental – friendly actions, social influence, subjective norms and other perceived behavioural control variables on consumers' intention and then draw an inference about the actual individual behaviour (Wang, 2020; Al-Swidi et al. 2014; Fielding et al. 2008; Collins and Carey, 2007; and Ajzen 1991). Thus, in the light of TPB, consumers' intention to make any buying decision is directly impacted by his behavioural attitudes and environmental psychology.

The addition of perceived behavioural control (PCB) strengthens the ability of the model to explain consumers' behavioural actions. Thus, TPB has been widely applied in the areas of green consuming, such as organic food, residents in green hotels, visiting green restaurant, green personal care products and eco-label food consumption (Ates, 2021; Wojnarowska et al. 2021; Liu et al. 2020; Jang et al. 2014; Han et al. 2011; and Kim and Chung, 2011). Moreover, TPB could be used to explain consumer environmental behaviours especially green behaviour and green purchase intention and how this could help in achieving environmental sustainability (Paul et al. 2016). Since the TPB permits the addition of other variables that can improve the model's explanatory power (Ajzen 1991), this study has incorporated few additional constructs for better explanation to consumer's green purchase behavior such as green consumer behavior (GB), green brand knowledge (GBK), and consumers' green attitude (CGA)

2.2 Cognition–affection–behavior theory of attitude

This study is also based on CAB theory of attitude (Lavidge and Steiner, 1961) that accounts for the effect of environmental knowledge and green purchase intention on the consumers' behavior. Thus, it's appropriate to integrate the CAB theory of attitude with its three physiological dimensions' cognition, affection, and actual behavior (Nguyen et al. 2019 and Aalderen-Smeets et al., 2012). Concerning cognition dimension, it refers to consumers' perception about attitude which is measured by their knowledge. On the other hand, the behavioural stage refers to consumer's behavioral reaction towards their attitudes which is measured by their intention. Finally, the affective stage refers to consumer's emotional reaction about their perceptions of attitude (Pan et al. 2021). In this study, CAB theory of attitude was extended by integrating new constructs. Concerning the cognitive dimension, research has shown that perceived environmental knowledge and attitude towards green brand are key determinates to consumer's green purchase intention (Zhao et al. 2021; Pan et al. 2021 and Liu et al. 2017). For the affective or emotional dimension, Pebrianti, & Aulia, 2021 argued that green brand positioning represents an environmentally friendly firm image. Thus, positioning the brand in the minds of consumers as green brand can affect brand image, consumer's attitude, brand attachment and purchase intention towards green products (Pan et al. 2021 and Chen, 2017). Moreover, as per the behavioral dimension, consumer's purchase intention was chosen as the construct that indicate consumer's intention to purchase green products to limit carbon emissions (Pan et al. 2021).

2.3 Value Belief Norm Theory (VBN)

The VBN theory has been used extensively to provide deep analysis of consumers' pro environmental behavior and then was extended to examine purchase intention to buy green products (Hein, 2022). More specifically, this theory is based on the values and beliefs that explain environmental protection norms that vary among consumers (van Ripper and Kyle, 2014; and Steg et al., 2005). Furthermore, VBN theory suggests that the perceived environmental risks that arise due to climate change could motivate the adoption of a hazard-mitigation behavior, resulting in lower carbon emissions and thus better environment (Pan et al. 2021).

VBN theory has three integrated dimensions that explain how environmental behaviour is formed. Thus, people's environmental consciousness could be explained by the interactions among values, beliefs and norms (Stern et al. 1999). In line with this, VBN theory was chosen as a theoretical foundation for this study to integrate environmental attitude, purchase intention and carbon emissions (CE) in the context of green brand positioning. In green brand positioning, consumers` develop their own knowledge about environmental risks first and then create specific firm image through firm green brand positioning. This will lead to positive attitude towards the environment because of higher environmental responsibility and satisfaction with green brands. Finally, the integration of these environmental beliefs and norms, shape consumer's willingness to protect the environment and thus develop green purchase intention. Thus, this study used green attitude towards environment as an independent variable to predict consumer' purchase intention of green products to limit carbon emissions. In this context, synergizing the theories of the TPB, VBN and the CAB theory of attitude, we present the relevant hypotheses and the research model of this study.

Green Brand Positioning (GBP) & Green Purchase Intention (GPI)

Green brand positioning is related to all brand environmental attributes that customers pay attention to (Pebrianti & Aulis; 2021; Wang, 2016; Aaker and Joachimsthaler, 2002 and Rios et al. 2006). As perceived by the public, green brand positioning represents an environmentally friendly firm image (Pebrianti and Aulia, 2021). Saha and Darnton (2005) explained that green positioning is the element that represents the company's green image as perceived by the public". Thus, an important part of positioning a green brand is making sure that customers know about the brand and that it is different from other brands because of its environmentally friendly features (Rios et al., 2006). Green brand positioning can be thought of as a marketing effort to put the brand or product attributes in their place based on how they can help the environment and people's health (Booi-Chen, 2011 and Hartmann et al. 2005). Wang (2016) discovered that many researchers focused on green brand positioning in order for the brand to match green consumers' expectations about important features. Therefore, green brand positioning is critical for building a brand image in the minds of consumers for a company to succeed in the green market and to achieve green sustainability (Gwin & Gwin, 2003). Moreover, businesses could leverage innovative marketing strategies

and promotions to highlight the characteristics of their green brands to attract more green customers (Huang et al. 2014). In the context of green product purchase intention, green brand positioning is an important factor in identifying the factors that affects green purchase intention (Suki, 2016; Huang et al., 2014; and Mostafa, 2007). Thus, in the light of the preceding literature, the following can be hypothesized:
Hypothesis 1 (H₁): Green brand positioning has a significant impact on green purchase intention

Attitude towards Green Brand (CGA) & Green purchase Intention (GPI)

Brand attitude refers to consumer's preference for evaluating the brand itself (Teng, 2009). Attitude refers to a consumer's preferences and dislikes (Solomon, 2022) that are influenced by consumer's environmental attitude (Mostafa, 2007). According to Chen and Deng (2016) consumers' attitudes towards green products indicate to what extent the decision to buy a green product is valued by consumers, whether in a negative or positive way. More specifically, consumer's attitude towards green products is shaped by their awareness about environmental risks where green consumers usually have positive attitude towards green products, resulting in higher green purchase intention (Bryla, 2019; and Yadav and Pathak, 2016). Paul et al. (2016) concluded that intention to purchase green products could be strongly predicted by consumer's positive attitude towards green products. This result was found in many different studies that proved that consumer's green attitude has a statistically significant impact on green purchase intention (Kamalanon et al. 2022; Jan et al. 2022; Siyal et al. 2021; Al Mamun et al. 2018; Yadav and Pathak, 2016; Paul et al. 2016; Barber et al. 2009; and Teng, 2009). Another important study by Mostafa (2007) concluded that consumers with positive attitudes toward green products are more willing to purchase green products that are defined as green brands and use green brand positioning as their strategy. Thus, according to the previous literature review, the following hypothesis is postulated:

Hypothesis 2 (H₂): Consumer's attitude towards green brands has a significant impact on green purchase intention

Perceived Environmental Knowledge (PEK) and Green Purchase Intention (GPI)

Environmental knowledge has no universal definition; however, many researchers define environmental knowledge as consumers' understanding of how products could negatively impact the environment through harmful chemicals, greenhouse gases, recycled packaging, and other ecological information that affects their attitude and intention to purchase such products (Thu and Huynh, 2022; Haryanto & Budiman, 2014; Chen, 2013; Ali et al. 2011). Previous studies have found that higher level of environmental knowledge led to higher purchase intention of green products (Thu and Huynh, 2022; Yadav et al. 2016, and Rokicka, 2002). Moreover, developing strong environmental knowledge among consumers will lead to higher positive attitude towards green products (Maichum et al. 2016). On the other hand, few studies found that perceived environmental knowledge have no significant impact on consumers' attitude (Indriani et al. 2019 and Levine and Strube, 2012). This view was proposed by Miller (1991) who argued that although large percentage of consumers have enough information about environmental problems and show real concern about climate change, only few are willing to change to green brand as their prices are higher or they don't want to change their personal lifestyle. Hence, we hypothesized that:

Hypothesis 3 (H₃): Environmental knowledge is positively related to consumer's attitude towards green brands.

Hypothesis 4 (H₄): Environmental knowledge has a positive and significant effect on green purchase intention

Green Brand knowledge (GBK), Green Brand Positioning (GBP), Intention (GPI), and Attitude (CGA)

Rajesh (2020) defines green brand knowledge as the information available about how overall products' carbon footprint could be reduced whether in terms of products' components or through the production processes itself. Also, Suki (2016) defines green brand knowledge as the process through which a business conveys knowledge or information about the uniqueness of its product via the brand's qualities and their environmental benefits (Suki, 2016). As a result, firms must persuade customers about the risks related to the use of chemical-based goods and the benefits of using eco-friendly healthy products so that customers perceive what the firm provides. Customers with a high degree of environmental knowledge show a higher environmental mentality and will be more likely to consume eco-friendly products (Huang et al. 2014). Therefore, companies must provide their consumers with reliable information about environmental changes to raise their green brand knowledge and thus their intention to purchase their green products for

ecologically friendly purposes (Suki 2016; Ganapathy et al. 2014; Keller, 1993). More specifically, when customers lack information or awareness about green product or brand, their intention to buy a green product is severely impacted. This positive relation between environmental knowledge and consumers' green purchase intention have been highlighted in many previous studies. These studies proved that if consumers are well informed about how green product mitigate the effect of climate change, they will have strong intention to purchase it (Siyal et al. 2021; Sayed et al. 2021; Paul et al. 2016; Yadav and Pathak, 2016; Pagiaslis and Krontalis, 2014; and Mostafa 2009). Thus, green brand knowledge has positive impact on consumers' green purchase intention.

Moreover, many previous studies in the field of green marketing have asserted that consumers' information about climate change and the rising carbon emission will influence their attitude towards the use of green products and thus consumers' green brand knowledge and attitude are positively correlated (Suki, 2016; Chang and Wu, 2015). Consumers' who are fully aware with surrounding environmental problems have a positive attitude towards green brands and stronger intention to purchase green products to preserve the environment (Huang et al. 2014 and Rokicka, 2002). On the other hand, few empirical studies could not find any significant relation between green brand knowledge, attitude, and green purchase intention (Suki, 2016; Lim et al. 2016; and Connell, 2010)

Other scholars examined the rule of green brand knowledge (GBK) in moderating the relationship between green brand positioning (GBP) and green purchase intention (GPI). They concluded that firms that have succeeded in positioning their brands as environmentally friendly through delivering information to consumers concerning the benefits of purchasing green brands, will develop stronger intention among consumers to purchase green products to preserve the environment (Siyal et al. 2021; Suki, 2016; Huang et al. 2014; and Ganapathy et al. 2014; Chen). Accordingly, the following three hypotheses have been hypothesized:

Hypothesis 5 (H₅): *Green brand knowledge moderates the relation between green brand positioning and green purchase intention*

Hypothesis 6 (H₆): *Green brand knowledge has significant effect on consumer's green purchase intention*

Hypothesis 7 (H₇): *Green brand knowledge has significant effect on consumer's attitude towards green brands*

Green Behaviour (GB) & Green purchase Intention (GPI)

Green behavior referred to a set of actions that minimizes harm to the environment through minimizing use of energy, reducing waste, conserving water, and refusing to buy goods perceived to be harmful to the environment (Mishal et al, 2017 and Steg and Vlek, 2009). According to Chen (2010) consumers who care about the environment and the world give greater attention to environmental protection. They are willing to pay a premium price for a green product to help clean up the contaminated environment. Ogiemwonyi et al. 2019, defined green customers as those who exert much effort to change their behaviour and buy green products to help in protecting the environment. Similarly, Kumar & Ghodeswar (2015) defined green consumers as those who purchase environmentally friendly products from environmentally friendly businesses. Laroche et al. 2001 discovered that consumers seek information and educate themselves about the ingredients in green products prior to purchasing them. Consumers would share the information and knowledge they have gleaned with their peers, and they would learn from each other about the green product's composition prior to consumption. Indeed, green buyers are eager to pay a premium price for any green goods (Barber, Taylor, & Strick 2009). Green consumers usually buy green products that either preserve the environment or at least minimize environmental pollution. Purchasing green products decision are based on green consumers' recognition of social awareness that develop positive attitude towards green products that are directly linked with green behaviour (Ogiemwonyi et al. 2019)

Hypothesis 8 (H₈): *Green behavior of customers has a positive influence on green purchase intention*

Hypothesis 9 (H₉): *Green behavior of customers has a positive influence on carbon emissions*

Green Purchase Intention (GPI) & Carbon Emissions (CO₂)

Green purchasing can be defined as buying environmentally friendly products and evading those that cause environmental degradation (Soomro et al., 2020). Those green products either use environmental safer

materials, recyclable materials or less packaging (Chen and Chai, 2010). Thus, green product purchase intention shows consumers' willingness and desire to buy products that help in preserving the environment compared to traditional ones (Li et al. 2021 and Esmailpour & Bahmiary, 2017; and Paul et al. 2016). Suki (2016) also claimed that people intend to acquire a green product that is less hazardous to the environment and society. Global warming has been attributed to an increase in the average air temperature, which has resulted in a series of changes to the earth's climatological systems. These rapid changes are occurring as a result of human activity's continued emission of high - temperature greenhouse gases (GHG) into the atmosphere. Thus, due to the rising anxieties about climate change and rising carbon emissions, examining the impact of green purchase intention on carbon emissions is now a worldwide demand. Few empirical studies have discussed the impact of green products in some sectors such as vehicle and transportation (Wijekoon and Sabri, 2021) and construction sector (Saleh and Al - Swidi, 2018) on environmental quality. Similarly, Pan et al (2021) argued that the extent through which packaging harm the environment through increasing carbon emissions, can be used as a measure of the environmental friendliness of packaging. Against this background, the following hypothesis has been developed.

Hypothesis 10 (H₁₀): *Green purchase intention has a positive impact on CO₂ emissions*

The proposed model is shown in figure 1:

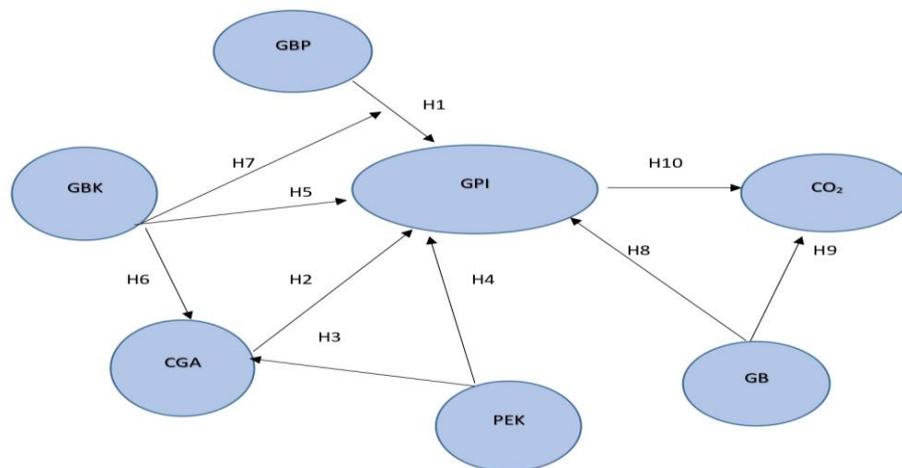


Figure (1)

Research Conceptual Model

3. Methodology

3.1 Data Collection & sample design

The main objective of this study is to identify the factors affecting consumers' behavioral intention to buy green products and to test its effect on carbon emission reductions. Thus, non -probabilistic convenience sampling method was used in this research which is coherent with several previous studies analyzing consumers' green purchase intention (shoukat et al. 2021; Keni et al. 2020; Ahmed and Zhang, 2020; and Jaini et al. 2019). This method indicates that not all brand users have equal chances to be selected where the researchers target consumers who are easily accessible (Shoukat et al. 2021; Ahmed and Zhang, 2020; and Bell et al. 2018). Data collection was carried through distributing an online questionnaire designed using google forms which has superior advantage of being cost efficient and has shorter time frame compared to hand - to - hand questionnaires. This is applicable since the only requirement for participating such study is to have access to the internet (Celik, 2008). Different social media tools such as Facebook, Twitter, WhatsApp and LinkedIn were used to distribute the questionnaire's URL so as to ensure that the sample is representative.

Nunnally (1967 cited in Mishal et al. 2017) suggested a rule of thumb used in most of the empirical studies using structural equational model (SEM). The proposed rule defined an appropriate sample size to be at least ten times the number of variables used by the researchers in their study. However, a sample size of 200 valid questionnaires is claimed by many researchers to be adequate for SEM analysis if the number

of variables vary between 15 to 20 (Mishal et al. 2017; Punyatoya, 2015 and Rahbar and Wahid, 2011). In similar vein, Hair et al.2010 and Bagozzi and Yi, 2012 proposed a sample size above 100 to be reasonable and if it is above 200 it will be highly adequate for statistical analysis. Since there are 7 constructs used in this study a sample size of 229 is appropriate and adequate to employ SEM model. Thus, a total of 254 questionnaires were distributed and only 229 questionnaires were used for the analysis after screening and deleting invalid questionnaires. Table 1 shows an overview of the demographics of the respondents.

Demographic Variable and category		Frequency	Percentage
Gender	Male	78	34.1
	Female	151	65.9
Age	18 – 25	139	60.7
	26 – 35	48	21.0
	36 – 45	25	11.0
	46 – 55	12	5.2
	56 or greater	5	2.1
Employ Status	Employed in private sector	87	40.0
	undergraduate	100	43.7
	Employed in public sector	37	16.1
	Unemployed	5	2.1
Education	University Student	102	44.5
	Bachelor	48	21.0
	Master/MBA or higher degree	95	41.5
Income	Less than 3000	80	35.0
	3000 – 6000	68	29.6
	6000 – 10,000	38	16.6
	More than 10,000	43	18.7

Table 1: Respondent's profile

As shown in table 1, 66% of the respondents were female, most of the respondents (60.7%) lie in the age group 18 – 25 and 44.5% of the respondents were university students. The analysis of the respondents' profile indicates that an average age of twentieth are aware with the risks of climate change and the benefits of green brands in limiting carbon emissions.

3.2 Instrument Measures

All constructs used in this study were adapted from previous literature where a total of 7 constructs were used. Green brand positioning was measured using five items adapted from Patrick et al. 2005 and Suki, 2016 while green brand knowledge was measured using four item scale adapted from Suki, 2016. Moreover, perceived environmental knowledge and consumers' attitude towards green products were both measured based on six items scale where the first was adapted from Mostafa (2007), and Jiang & Kim, 2014 while the later was adapted from Al – Swidi & Saleh, 2021, Ogiemwonyi, et al. 2020, Suki, 2016. Finally, green behaviour and green purchase intention were measured using seven, five and two items scale adapted from Sudbury Riley et al. 2012, Wang, et al., 2020 & Suki, 2016, respectively. Table 2 shows the measurement items.

Before official data collection, a pilot study of 50 respondents was conducted to test the validity and reliability of the measurement variables, to ensure that the questionnaire is solved in reasonable time, and the questions are easily understood. The respondents' comments and feedback were used to modify the questionnaire and thus few questions were omitted, and others were modified. All measurement items were designed on a five – point Likert scale where 1 indicates “strongly disagree” while 5 “strongly agree”. Table 2 shows the measurement variables and its source.

Latent Variables	Measurement Items	Sources
Green brand positioning	Quality and price are important when consumers purchase green products	Patrick et al. 2005 and Suki, 2016
	I get to know about green branding through advertisement	
	Green products have matched my personal wants and needs	
	Green product always overpriced	
	I prefer to purchase environmentally green products	
Green brand knowledge	Green brands) environmental performance meets my expectations	Suki, 2016
	Lack of availability of access is a major reason for low popularity and demand of green products	
	I purchase green product because it is environmentally friendly	
	I purchase green product because it has more environmental benefit than other products	
Perceived environmental knowledge	I am familiar with green brands	Mostafa, M. (2007), Jiang & Kim, 2014
	I can explain to other people the meaning of eco-labels	
	I know how to select products and packages that reduce the amount of waste	
	I understand the environmental phrases and symbols on product package)	
	I consider myself to be an environmentally conscious person.	
	Green brands help preserve the environment	
Green consumer's attitude	I prefer green brands because they satisfy my values	Al – Swidi & Saleh, 2021, Ogiemwonyi, et al., 2020, Suki, 2016
	I prefer green brands because they are environmentally friendly	
	I feel green product help to decrease pollution.	
	If I have a choice, I will prefer a green product to non-green product.	
	Green products have responsibilities for environmental protection	
	I feel that green product's environmental claims are generally trustworthy	
Green behaviour	When there is a choice, I always choose the product that contributes to the least amount of environmental damage.	Sudbury-Riley, L., & Hofmeister, A. (2012)
	I have switched products for environmental reasons.	
	If I understand the potential damage to the environment that some products can cause, I do not purchase those products.	
	I do not buy household products that harm the environment.	
	Whenever possible, I buy products packaged in reusable or recyclable containers	
	I make every effort to buy paper products (toilet paper, tissues, etc.) made from recycled paper.	
Carbon emissions	I believe that co2 emissions will decrease when I purchase a green brand	Pan et al. (2021)
	Overall, Green brands enhance the environment	

Table 2: Measurement Instruments

4. Results

4.1 Measurement Model Assessment

The study employed the partial least squares (PLS) method for the analysis of structural equation modeling (SEM) to test research hypothesis by using SmartPLS software package. Following the two-step approach recommended by Hair et al. (2012) and Schumacker and Lomax (2004), we tested the validation of the measurement model, then the structural model was assessed. PLS - SEM method has many superior advantages compared to other traditional techniques such as AMOs and LISREL where it can be used with small sample size, formative and reflective indicators and non - normal data (Hair et al. 2014) Moreover,

PLS - SEM avoids multi - collinearity and measurement errors among latent variables (Fornell and Bookstein, 1982)

4.1.1 Reliability and Validity of measurement instruments

The measurement model could be assessed by testing reliability (convergent validity) and discriminant validity. The convergent validity (Reliability) measures the internal consistency of the measurement items based on three criteria: Individual Item Reliability, Composite Reliability (CR) and Average Variance Extracted (AVE) (Heir et al., 2010). Individual item's reliability is confirmed if the outer loadings are greater than 0.7. Moreover, convergent validity is assessed by composite reliability and Cronbach's alpha with values range between 0.7 and 0.9 (Heir et al., 2010; and Ursachi; 2015). High Cronbach's alpha indicates that the reliability of the variables under study is high and thus the responds are credible and reliable (Hair et al., 2014). Average variance extracted (AVE) - that is used to indicate whether the reflective indicator explain the latent construct - is confirmed if the AVE value is greater than 0.5 (Fornell & Larcker, 1981 and Byrne, 2001). Table 3, shows the factor loadings, composite reliability, Cronbach's alpha and AVE.

Constructs	Indicator	Factor Loadings	AVE	CR	Cronbach's Alpha
GBP	GBP1	0.751	0.527	0.815	0.723
	GBP2	0.765			
	GBP3	0.775			
	GBP4	0.800			
CGA	ATT1	0.791	0.675	0.871	0.815
	ATT2	0.784			
	ATT3	0.726			
	ATT4	0.790			
	ATT5	0.701			
PEK	PEK1	0.727	0.588	0.877	0.825
	PEK2	0.737			
	PEK3	0.800			
	PEK4	0.767			
	PEK5	0.798			
GB	GB1	0.712	0.711	0.880	0.896
	GB2	0.753			
	GB3	0.755			
	GB4	0.734			
	GB5	0.733			
	GB6	0.730			
	GB7	0.747			
GBK	GBK1	0.704	0.723	0.822	0.610
	GBK2	0.858			
	GBK3	0.825			
GPI	GPI1	0.829	0.609	0.886	0.839
	GPI2	0.705			
	GPI3	0.785			
	GPI4	0.820			
	GPI5	0.757			
CE	CE1	0.905	0.762	0.865	0.804
	CE2	0.840			

Table 3: Reliability and Validity Measures

As shown in table 3, outer loadings are all greater than 0.7, Composite Reliability and Cronbach's alpha are greater than 0.7 and AVE is greater than 0.5. These results indicate that the variables are valid, and the model is consistent.

Discriminant validity is the extent through which each construct is different than the other in the way that the measurement items of each variable is not correlated (Heir et al., 2014). It's assessed by Heterotrait-Monotrait ratio of correlations (HTMT), Fornell-Larcker criterion and cross loadings (Fornell & Larcker, 1981 and Chin, 1998). Thus, if the value of diagonal elements - square roots of AVE - in the matrix is greater than other values, discriminant validity is confirmed (Hair et al. 2010). As shown in table 4, the square root of AVE is greater than the correlation of another latent variable which indicates that the discriminant validity of each variable is satisfactory.

Table 4: Discriminant validity of the constructs (Fornell & Larcker criteria)

	CGA	CE	GB	GBK	GBP	GPI	PEK
CGA	0.759						
CE	0.707	0.873					
GB	0.660	0.622	0.734				
GBK	0.695	0.575	0.698	0.781			
GBP	0.546	0.500	0.611	0.575	0.726		
GPI	0.629	0.632	0.647	0.617	0.460	0.787	
PEK	0.513	0.419	0.668	0.526	0.475	0.521	0.767

Since the recent literature has used new test to assess the discriminate validity of the latent variables, we used the heterotrait-monotrait ratio of correlations (HTMT) as it is now considered the main criterion for assessing discriminant validity. HTMT test is a newly technique developed for the PLS - SEM method to test model validation which has superior advantageous compared to both; Fornell-Larcker criterion and cross-loadings (Heir et al. 2014 and Henseler et al. 2016). The HTMT ratio is acceptable and satisfactory if its below 0.85 and values of confidence interval is below 1 (Henseler et al. 2016; and Voorhees et al. 2016). Table 5 shows that all values are less than 0.85, thus discriminant validity was confirmed for all constructs and the model is considered valid.

	CGA	CE	GB	GBK	GBP	GPI	PEK
CGA							
CE	0.837						
GB	0.771	0.793					
GBK	0.816	0.825	0.824				
GBP	0.706	0.720	0.775	0.838			
GPI	0.751	0.812	0.874	0.810	0.584		
PEK	0.611	0.530	0.797	0.700	0.593	0.656	

Table 5 : Discriminant Validity (Heterotrait-Monotrait Ratio (HTMT))

4.2 Structural Model Assessment

The second step after confirming for the reliability and validity of the measurement model, is to assess the hypothesized relationships within the structural model. Since PLS - SEM does not have a unified goodness of fit test, Hair et. (2014) proposed four tests to assess the structural model goodness of fit; Variance inflation factor (VIF) to test for collinearity, coefficient of determination (R^2) to examine the explanatory power of the model, Cross Validated Redundancy (Q^2) and Effect Size (F^2)

4.2.1 Variance Inflation Factor (VIF)

The VIF test is used to examine whether the constructs are collinear or not. A value smaller than or equal 3.3 is acceptable and thus the structural model is considered reliable (Hair et al. 2014). Table 6 shows that all VIF values are below 3.3, hence the model did not suffer from collinearity problem.

Construct's relation	VIF
CGA → GPI	2.246
GB → CE	2.259
GB → GPI	2.934
GBK → CGA	1.382
GBK → GBP	1.001
GBK → GPI	2.489
GBP → GPI	1.760
GPI → CE	2.259
PEK → CGA	1.382
PEK → GPI	1.854

Table 6: *Variance Inflation Factor*4.2.2 *Coefficient of determination (R²):*

The coefficient of determination (R²) explains the explanatory power of the endogenous latent variables (Elliot & Woodward, 2007 and Hair et al, 2011). As a rule of thumb R² values of 0.25, 0.50, and 0.75 represent weak, moderate, and strong levels (Heir et al. 2011 and Henseler et al. 2009). However, in social sciences especially consumer behaviour studies, R² value of 0.2 is considered high and satisfactory (Heir et al; 2011; 2014). Table 7 shows the values of R² and adjusted R² are all acceptable and the model has moderate explanatory of 0.45 (Heir et al. 2011). This result indicates that 45% of the variation in carbon emissions is explained by all independent variables in the model

Variable	R ²	Adjusted R ²
Consumer Green Attitude	0.513	0.509
Carbon Emission	0.450	0.445
Green Brand Positioning	0.330	0.327
Green Brand Intention	0.600	0.591

Table 7: R² and adjusted R²4.2.2 *The Effect Size f²*

The effect size measures the different effects of each independent variable have on the endogenous construct. Therefore, the higher the value of the f², the higher the effect size. Cohen (2013) suggest that f² values of 0.02, 0.15, and 0.35 have small, medium, and large effects respectively. Table 8 shows that the values of the effect size f². The result indicates that green brand knowledge (GBK) and Perceived environmental knowledge (PEK) have strong effect on consumer's attitude towards green brands while green purchase intention has a moderate effect on carbon emissions. Moreover, the results also show that all other variables have varied effect from small to medium on green purchase intention. Thus, the estimated model is acceptable.

Construct's relation	f ²
CGA → GPI	0.047
GB → CE	0.093
GBK → CGA	0.512
GBK → GBP	0.493
GBK → GPI	0.011
GBP → GPI	0.035
GPI → CE	0.161
PEK → CGA	0.365
PEK → GPI	0.008

Table 8: The Effect Size

4.2.3 *Predictive Relevance (Q²)*

PLS requires a measure of predictive capability using blindfolding procedures in SmartPLS with omission distance of seven. Predictive Relevance (Q²) is used to assess the structural model predictive relevance. According to Chin (1998), a value of Q² greater than zero indicates there is a predictive power (Hier et al., 2011). Also, according to Heir et al. (2014) values of 0.02, 0.15, and 0.35 have small, medium, and large predictive power. Table 9 presents the Stone-Geisser's Q² values. The results indicate that all Q² values are above zero.

Construct	Q ²
CGA	0.281
CE	0.323
GBP	0.164
GPI	0.351

Table 9: Predictive Relevance Assessment

4.3 Structural Equation Model & Hypothesis Testing

The assessment of the measurement model confirmed that results are reliable, and valid which indicates satisfactory results. Thus, we can continue our analysis by testing the structural Model (Hair et al., 2011). In consumer behavioral studies Structural Equation Model (SEM) is used extensively to examine relationships among different latent variables previously defined in the structural model (Ismael et al. 2021; Hu et al., 2019; and Bollen & Long, 1993). In our study, ten hypotheses were formulated, and the statistical significance level of the path coefficients were tested using bootstrapping resampling technique in smartPLS (Yi and Davis, 2003 and Hair et al. 2014). In other words, Bootstrapping procedure with 500 sub - sample is used to test the effect of exogenous latent variables on carbon emissions (CE) the endogenous variable. More specifically, we used bootstrapping procedure to estimate standard errors, t - value, and p value, to test the significance of the path coefficients. In general, if $t > 1.96$, the hypothesized test is significant at the $p < 0.05$ confidence level. Figure 2 shows the PLS bootstrapping for the proposed model in this study.

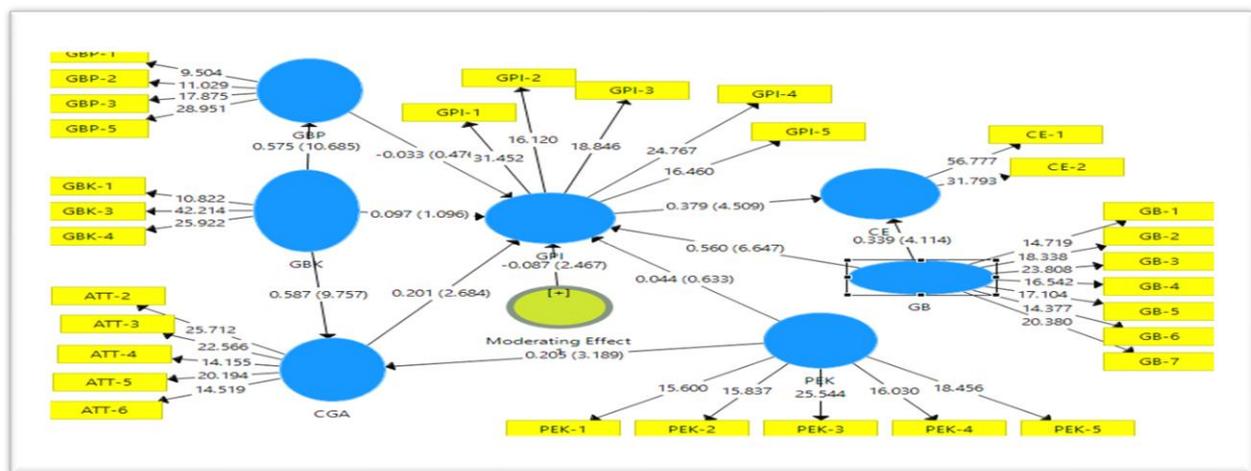


Figure (2)
PLS Bootstrapping for the Proposed Model

4.3.1 Direct & Indirect Results:

The results of the hypothesis testing are presented in table 10, where six hypotheses are supported, while four are rejected. The results revealed that consumers' attitude towards green products (CGA) has a positive significant effect on consumer's green purchase intention (GPI) which meets our expectations ($\beta_2 = 0.201$, t - value of 2.684). Hence, H_2 was supported. Similarly, green behavior (GB) has a significant and positive significant link with consumer's green purchase intention ($\beta_8 = 0.560$, t - value of 6.647), thus H_8 is also supported. The results also indicate that there is a significant positive correlation between consumers' intention to purchase green products (GPI) and carbon emission (CE) ($\beta_{10} = 0.379$, t - value of 4.509) and thus hypothesis H_{10} is also retained. Moreover, consumers' green behavior (GB) has a positive influence on carbon emissions (CE) where if consumers' behavior defined as green, i.e., favoring green products, carbon emissions will decrease ($\beta_9 = -0.339$, t - value of 4.114). Thus, hypothesis H_9 is reinforced. On the other hand, green brand positioning (GBP), perceived environmental knowledge (PEK), and green brand knowledge (GBK) have no statistically significant impact on green purchase intention with t - values < 1.96 and thus H_1 , H_4 , and H_5 were rejected.

Although the results confirmed the insignificant direct impact of perceived environmental knowledge (PEK) and green brand knowledge (GBK) on green purchase intention (GPI), both variables have indirect effect on consumers' green purchase intention through attitude with t - values of 3.239 and 9.776 respectively and thus consumers' green attitude (CGA) is said to play a significant important intermediary role. Therefore, hypotheses H_3 and H_6 were also supported. Table 10 shows the direct and indirect results.

Hypothesis	Construct's Relationship	Original sample	Sample Mean	Standard deviation STDEV	T – statistic	P – value	Significance
Direct Results							
H1	GBP → GPI	-0.033	-0.027	0.070	0.476	0.634	Not - Significant
H2	CGA → GPI	0.201	0.192	0.075	2.684	0.007	Significant
H3	PEK → CGA	0.205	0.207	0.064	3.189	0.001	Significant
H4	PEK → GPI	0.044	0.044	0.069	0.633	0.527	Not - Significant
H5	GBK → GPI	0.097	0.100	0.089	1.096	0.273	Not - Significant
H6	GBK → CGA	0.587	0.587	0.060	9.757	0.000	Significant
H8	GB → GPI	0.560	0.560	0.084	6.647	0.000	Significant
H9	GB → CE	0.339	0.340	0.082	4.114	0.000	Significant
H10	GPI → CE	-0.380	-0.380	0.084	4.509	0.000	Significant
Moderating effect							
H1	GBP → GPI	-0.033	-0.027	0.070	0.476	0.634	Not - Significant
H5	GBK → GPI	0.097	0.100	0.089	1.096	0.273	Not - Significant
H7	GBP X GBK → GPI	0.575	0.577	0.054	10.685	0.014	Significant

Table 10: Significance testing results of the structural model path coefficients

4.3.2 The Results for Moderating Effects

We used the latent moderated effect model to examine the moderating effect of green brand knowledge (GBK) on the relation between green brand positioning (GBP) and green purchase intention (GPI). More specifically, we add the moderator variable to examine how GBK affects the relation between GBP and GPI in terms of direction or strength of the relationship. In this study, we added the interaction term green brand positioning X Green brand knowledge (GBP X GBK) into the model. In other words, we add the moderating variable (GBK) as an additional separate latent variable (construct) using the cross product of the independent variable (GBP) and the moderator (GBK) through a method known as “product indicator approach” (Dawson, 2014). Ping (1995) proposed a method that assess path models with latent variable interaction which is based on calculating the mean centered indicator values before the moderator variable multiplication (i.e., green brand knowledge) with the predictor variable (i.e., green brand positioning), to capture the moderating effect. Thus, an interaction term was introduced, and the hypothesis (H₇) was tested for the moderation analysis. The results revealed that GBK moderates the relation between green brand positioning (GBP) and green purchase intention (GPI) ($\beta = 0.575$, t - value = 10.685). Thus, H₇ was accepted. Table 10 shows the moderating statistical results.

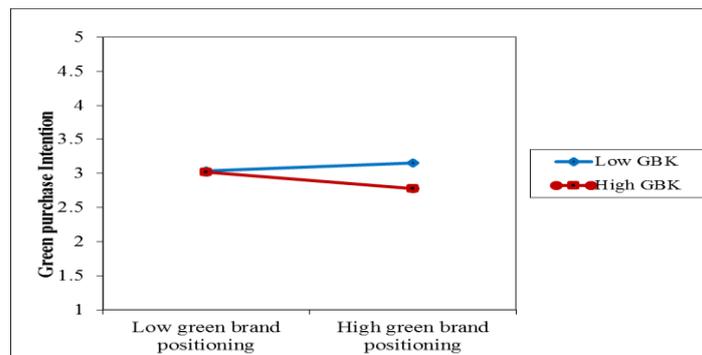


Figure (3)

Moderating effect of GBK on relation between GBP and GPI

5. Discussion

The main objective of this study is to examine the impact of green purchase intention on carbon emissions in Egypt. More specifically, this study analyzes the impact of green brand positioning, green brand knowledge, consumers' green attitude, perceived environmental knowledge, and green behavior on consumer's green purchase intention. In other words, it identifies the key factors that influence consumer's intention to purchase green products and analyzes how green purchase intention affects carbon emissions in Egypt. Moreover, the moderating role of green brand knowledge (GBK) on the relation between green brand positioning (GBP) and green purchase intention (GPI) was also examined.

Our findings revealed that green brand positioning (GBP), one of the main factors affecting green purchase intention, have insignificant effect on green purchase intention. Thus, H₁ is not supported. The finding revealed that brand positioning by the firm has no effect on green purchase intentions among Egyptian customers. Successful green brand positioning is supposed to develop higher purchase intention through the positioning of the brand as environmentally friendly in consumers' mind. Thus, green brand positioning can provide the firm with superior advantages over other competitors' and strength of the competitive position of the firm due to its role in promoting better environmental quality and thus motivate consumers to purchase green products (Situmorang et al. 2021; Suki, 2016; Huang et al. 2014). One possible explanation is that green brands in Egypt lack successful brand positioning strategies and thus consumers' do not know that the brand is environmentally friendly. This means that the positioning strategy conveyed through active communication campaigns for green brands cannot directly generate purchase intention since consumers need to change their attitude towards green brands first. Another plausible explanation is that environmental consciousness varies extensively among Egyptian consumers and thus the predisposition of successful GBP strategies employed by firms, may have no effect on their purchase intention of green products. The results came in line with previous studies (Pebrianti and Aulia; 2021 and Mehraj & Qureshi, 2022)

The study also examined the effect of consumers' attitude towards green products (CGA) on green purchase intention. The result reveals that green attitude is a key driving force of consumers' green purchase intention which suggests that consumers having positive attitude towards environment, will have higher intention to purchase environmentally friendly products (Jain et al. 2021). Thus, consumers' attitudes are shaped based on the firm image which induce them to purchase environmentally friendly products. The study findings are supported by previous studies (Kamalanon et al. 2022; Jan et al. 2022; Siyal et al. 2021). The study's findings revealed that consumers' positive attitude towards green products is derived from their environmental attitudes. In other words, they have high environmental consciousness to the extent that they feel committed to preserve the environment and perform pro-environmental activities such as purchasing green products to limit carbon emissions. This finding suggests that firms' marketers must build a positive green attitude among their consumers to encourage them to buy green products. These results are consistent with previous studies (Kumar et al. 2021; Channa et al. 2021; Kumar, 2019; Mostafa, 2009).

Similarly, a statistically significant link was found between perceived environmental knowledge and green attitude, where PEK is said to have indirect effects on consumer's intention to purchase green products through its positive impact on consumers' green attitude. Thus, H₃ is accepted. This result indicates that consumers who have a good knowledge about how green products are committed to reduce their ecological footprint, their attitude and behaviour towards environment and green brands will be positive. This finding came in line with many previous studies (Lim et al., 2016; Saichao, 2016; and Maichum et al. 2016). Moreover, Mostafa (2007) proved that environmental knowledge concerning environmental risks and climate change problems is a key influencing factor to consumers in Egypt to have environmentally friendly attitude.

Surprisingly, perceived environmental knowledge (PEK) has insignificant impact on consumer's green purchase intention. This result did not come in line with our expectations. According to the previous studies perceived environmental knowledge was expected to have positive significant effect on consumers' green purchase intention. In other words, consumers' understanding of how products could harm the environment through increasing carbon emissions, should positively influence them to purchase green products to limit carbon emissions. But surprisingly, PEK found to have no effect on consumers' green purchase intention. This result was supported by few previous studies who found no relation between PEK and GPI (Thu and Huynh, 2022; Demiret et al., 2021; Maichum et al. 2016; and Ramayah et al. 2012). One possible explanation that PEK found to play an insignificant role in influencing consumer's green purchase intention in Egypt, is that consumer's environmental knowledge is not enough to develop an intention to buy green products. According to Schultz and Zelezny, (1999) consumers' awareness toward environmental risks differs heavily across countries and thus although consumers might have concerns about the environment, but they choose not to purchase green products as their awareness towards environmental risks is not strong enough to develop high purchase intention towards green products (Huddy, 2001). Therefore, the insignificant relation could be attributed to the fact that consumers in Egypt, as any

developing country, either are not aware enough about the environmental risks or don't believe that their green practices would be beneficial for limiting carbon emissions. Another plausible explanation is that green brands still lack green marketing strategies that provide enough details about the efforts exerted by the firm to reduce its ecological footprint to limit carbon emissions (Indriani et al. 2019 and Mostafa, 2007)

Subsequently, this study further enhanced the current literature by examining the mediating impact of GBK on the relationship between GBP and GPI. Therefore, an interaction model was tested by creating an interaction term between green brand positioning, green brand knowledge and green product purchase intention. The results revealed that although GBK has no significant direct impact on GPI, it moderates the relation between GBP and GPI. Our findings indicate that the relationship between GBP and GPI would be more powerful and effective through GBK. More specifically, the positive relation between GBP and GPI was stronger for consumers that their green brand knowledge is higher and well informed about the efforts exerted by different firms to limit environmental pollution. It can be said that GBK strengthen the positive relation between GBP and GPI. The findings suggest that firms must position their brands as eco - friendly in consumers' mind through wide awareness campaigns on how green brands could enhance the environment by reducing carbon emissions. This will lead to higher purchase intention towards green products and hence better environment. This result contradicts with Suki, (2016) and Huang et al. (2014) but came in line with Siyal et al. (2021).

Although GBK has no direct impact on GPI, it was proved that it has an indirect impact on GPI through consumers' Green Attitude. This result indicates that GBK can influence consumers' attitude towards green brands. In other words, consumers who are well informed about how green brands can reduce products' carbon footprint, usually have positive attitude towards green brand. The results came in line with previous studies (Pebrianti and Aulia; 2021; Rajesh 2020; Aulina & Yuliati, 2017; Suki, 2016; and Huang et al., 2014). A plausible explanation why green brand knowledge (GBK) influence consumers' attitude towards green brands but not their intention to buy these green products is that consumers in Egypt have limited environmental knowledge as they are not aware about how their changing consumption patterns from traditional products to green products would enhance the environmental quality by limiting carbon emissions. This result suggests that extensive awareness campaigns that enrich consumers' green knowledge about how buying green products would minimize climatic problems is essential for increasing consumers' green purchasing intention.

As predicted, green behaviour (GB) found to have significant positive effect on consumers' green purchase intention (GPI). This result indicates that consumers who are ethically committed toward improving the quality of the environment, usually are concerned by reducing firm's ecological footprint by purchasing green products. More specifically, consumers with green behaviour attempts to use their purchasing power to buy green products that are environmentally friendly and thus contributing positively to the environment by reducing carbon emissions. This result is support by previous studies (Nguyen et al. 2022; Ogiemwonyi et al. 2019 and Chen and chai, 2010). Khan et al. (2020) concluded that green consumer's behaviour is one of the main factors affecting purchase intention to purchase green products.

Moreover, the study also investigated the relation between green consumer behaviour and carbon emission and a positive significant relation is found between the two variables. This result indicates that green consumer behaviour is derived from his environmental consciousness of environmental risks and his need to preserve the environment and thus green behaviour GB have significant impact on carbon emissions (CE) (Khan et al. 2020). Moreover, people who participate in green behaviour are either highly educated and thus are more likely to be aware of the severe climatic problems and willing to engage in activities that can limit environmental pollution, or they are highly income groups so they can afford to pay higher premiums for green products and can bear the cost of protecting the environment (Khan et al. 2020). These segments represent small percentage of the Egyptian consumers which might explain the positive relation between GB and CE. This result suggests that consumers' green behaviour is not enough to reduce carbon emissions. In addition, this study makes a novel contribution to the literature by examining the relationship between GPI and CE. The study's findings revealed that consumers' intention to purchase green products can limit carbon emissions and thus improve the environmental quality.

Finally, the study findings suggest that green consumer's attitude (CGA) is found to be a crucial factor in shaping consumers' green purchase intention through its indirect effect on GBK and PEK. In other words,

environmental knowledge has positive effect on consumers' ecological behaviour and thus they have positive attitude towards green products. Thus, well informed consumers' about how green brands can reduce the overall products' carbon footprint usually have positive attitude towards green brand and thus develop higher intention among consumers to purchase environmentally friendly products to preserve the environment (Joshi and Rahman, 2015)

6. Conclusion and recommendations

Considering growing attention towards climate change and rising carbon emissions, the current study attempted to examine the effect of green brand positioning on environmental quality. Although some studies identified the factors influencing consumers' intention to purchase green brands, there is no study took the attempt to test whether purchasing green brands can limit carbon emissions or not. This study fills in this gap. We integrated three important theories which are TBP, CAB and VBN to extend and develop a new extended model to relate green purchase intention with carbon emission through identifying the factors influencing consumers' purchase intention towards green brands in Egypt. The factors examined are green brand positioning (GBP), green brand knowledge (GBK), perceived environmental knowledge (PEK), consumers' attitude towards green brands (CGA), and consumers' green behaviour (GB).

The current study contributed to the literature by being the first to test the relation between GPI and CE. The finding revealed that higher GPI would lead to lower CE and thus improve the environmental quality. We found also a positive and significant effect of consumers' attitude towards green brands (CGB) and green behaviour (GB) on consumers' intention (GPI) to purchase green brands. On the other hand, green brand positioning (GBP), perceived environmental risks (PEK), and green brand knowledge (GBK) are proved to have insignificant impact on consumers' intention to purchase green brands in Egypt. The results indicate that green brand positioning in Egypt could not affect consumers' intention to purchase green products. Moreover, the results also show that perceived environmental knowledge (PEK) and green brand knowledge (GBK) have indirect effect on consumer's intention to purchase green products through their effect on consumers' attitude and thus CGA is said to play a significant intermediary role. Furthermore, green brand knowledge (GBK) is said to mediate the relation between GBP and GPI. Our findings indicate that the relationship between GBP and GPI would be more powerful and effective through GBK. More specifically, the positive relation between GBP and GPI was stronger for consumers that their green brand knowledge is higher and well informed about the efforts exerted by their firms to limit environmental pollution.

The study also identified a lack of green brand knowledge, weak perceived environmental knowledge, and poor green brand positioning strategies as key barriers for deriving higher consumers' intention to purchase green brands in Egypt. More specifically, although Egyptian consumers might have positive attitude towards green brands, this might not lead to low - carbon behaviors due to the green knowledge gap. The consumers' choices are not governed by their environmental consciousness or responsibility because they either have insufficient environmental information or the firm cannot position its brands as environmentally friendly. Thus, they based their choices on other criteria rather than the ecological ones such as convenience, price, and perceived value.

7. Theoretical and Practical Contributions

There are valuable insights and implications for the theory and practice that can be drawn from this study. The study had many theoretical implications. *Firstly*, this study is among the first that empirically tested and validated the significant relationship of green purchase intention and carbon emissions through the formation of a new conceptual framework. *Secondly*, this study added to the literature through examining the moderating effect of GBK on the relation between GBP and GPI in an emerging country, Egypt. *Thirdly*, the new conceptual framework was based on the integration of three important theories in this discipline which are theory of planned behaviour (TPB), CAB model and VBN theory of environmentalism. *Fourthly*, the study tested and validated both TBP and VBN theories in the green behaviour context and how it limits carbon emissions. Thus, it enhanced the empirical literature by integrating different factors influencing consumers' green purchase intention in Egypt and test its impact

on carbon emissions. *Fifthly*, the study had provided empirical evidence on the importance of the moderating role of GBK on the relationship between GBP and GPI in Egypt.

In addition to the previous significant theoretical implication, this study has huge importance to policymakers and practitioners. *First*, the study found that Egyptian consumers still lack information about environmental risks and how green products could improve the environmental quality by minimizing harmful chemicals, reducing greenhouse gases, and increasing benefits of using recycled packaging, and other ecological information that affect their attitude and intention to purchase such products. Thus, the study recommends that marketers should focus on creating green awareness through advertising campaigns that educate the Egyptian consumers about the benefits of green products attributes to the environment, raise their environmental knowledge and induce them to have green behaviour which will raise their green purchase intention and hence limit carbon emissions. *Second*, to develop positive attitude towards green products, marketers should create a positive environmental image for the firm through highlighting their role in reducing carbon footprint to achieve environmental sustainability. Thus, it is suggested that marketers use integrated marketing communication strategies (IMC) to build positive attitude towards green brands through the combination of different tools such as advertising, sales promotions, internet marketing and social media marketing. These communication channels can easily reach consumers' and provide them with sufficient knowledge about green brands, which result in higher attention to buy the green products and services. *Third*, marketers should implement different brand positioning strategies that succeed in position the brands as environmentally friendly in consumers' mind through incorporating how green products save the environment. Thus, higher purchase intention among Egyptian consumers will be derived. *Fourth*, policymakers should address the environmental problems differently as they need to confront people with all climatic problems and the consequences of not dealing with these problems. Thus, short documentary films, government programs towards greening peoples' lifestyle, and TVs awareness ads should be made on different environmental risks that faces our world and provide them with relevant guidelines on how changing their usage and consumption patterns from conventional products to green products can limit greenhouse gases.

8. Study limitations and future research

The current study has some limitations that should be reviewed for future research. Firstly, although the sample size is considered adequate, however, the snowball sampling method produced sample that is not representative for the entire population as most of participants were young consumers of age range from 18 – 25 and thus, they don't have adequate purchasing power or sufficient information about green branding. Therefore, it is suggested to extend this study to include all consumer's types. Secondly, the questionnaire did not include any questions that could draw better picture about the respondents' profile and enrich our analysis and practical implications. These questions are, and not limited to, whether they are green consumers or not, the frequency of buying green products, and their source of information about the green attribute of the brand. Finally, although the study examined six factors influencing consumers' intention to purchase green brands, more variables were important to be examined. Thus, variables such as green government initiatives, perceived price, perceived values should be added and extend the current conceptual framework especially in an emerging middle-income country like Egypt where products prices are an important factor that consumers base their buying decision on.

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Generation Z & Y preferences of user acceptance of mobile health recommender systems

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Keywords

mhealth, recommender system, generation Z, generation Y, technology acceptance, trust, reputation, computer anxiety

Abstract

Mobile health (mHealth) applications provide equal reach to health care services at an affordable cost. mHealth can play a major role in enhancing the quality and access of health services in developing countries, still the adoption of mHealth in these countries is very low. On the other hand, younger generations have great dependence on mobile devices and have high potential to adopt mobile applications. The aim of this study is to investigate factors that affect user acceptance of mobile health recommender system among Generations Z (between 10 and 25 years old) & Y (between 26 and 40 years old). The research adopts Technology Acceptance Model (TAM3) constructs and extends them to include constructs related to Trust and Reputation, as mHealth is prone to uncertainty and vulnerability. Based on 136 valid responses collected from a survey, structural equation modelling SEM was employed to examine the research questions. The data were analyzed using the Partial Least Squares (PLS) method. The results suggested that for generations Z & Y, Perceived Usefulness has a significant positive effect on behavioral intention to use mobile health recommender system. This direct relationship is affected by user characteristics, namely gender and experience using technology. Perceived Ease of Use and Trust in mHealth applications, significantly increase the Perceived Usefulness. The results reveal the importance of perceived reputation in building Trust in mHealth applications, and it is found that Output Quality has a positive influence on Reputation. Computer anxiety has a negative effect on Perceived Ease of Use. These findings provide a basis for improving the understanding toward factors affecting mHealth applications in developing countries. The study provides number of practical design recommendations for designers and service providers.

Introduction

Mobile Health (mHealth) is the support of mobile technologies in practice of medicine and public health services. Mobile technologies include mobile phones, tablets, PDAs, as well as wearable devices, to access health services, and to collect health data from users. The global mHealth market size witnessed a huge growth in the past few years, especially during the COVID'19 pandemic. mHealth business is expected to reach \$102.4 billion in 2022 (Silicon IT Hub, 2022). Currently, there are many mHealth applications available in the market and many more are said to hit the market in the coming future. mHealth applications can be divided into five categories, as following: (1) Remote Monitoring Applications: track users' conditions in their homes, by reading blood glucose levels, oxygen level, heart rate, and blood pressure, allowing doctors to monitor the case without visiting the patient. (2) Clinical and diagnostic Applications: report lab results, and assess patients' health records, assisting doctors to check the symptoms and diagnose the illness. (3) Healthy Living Applications: track heart rates, daily diet, exercise, sleep, and suggest personalized healthy lifestyle. (4) Service Recommender Applications: on-demand healthcare application for searching and booking licensed health services. The current study focusses on Service Recommender Application. In these applications, search engine and customers' reviews can help users select a health services and book appointment.

Mobile Health can play a major role in enhancing the quality and access of health services in developing countries, On the other hand, despite the large use of mobiles in developing communities, still the adoption of mHealth in these communities is very low (Mansour, 2017). There is a severe shortage in literature investigating ways to increase the adoption of mHealth in developing countries, such as Egypt. There is a real need for empirical research to investigate how Egyptian users perceive such applications, and what are the factors affecting their use. This study is investigating factors affecting adoption of mHealth applications in Egypt. Based on the Technology Acceptance Model, this study is aiming to confirm a hypothesized significant relationship between variety of constructs, and the behavioral intention to use mHealth applications. The findings would assist designers and health service providers to meet the expectations of users and improve the applications adoption.

Literature review

The Technology Acceptance Model, TAM, developed by Davis (Davis, 1989) is the most used framework in predicting information technology adoption and acceptance (Paul, John and Pierre, 2003). There are other theories of technology acceptance namely the theory of planned behavior (TPB), value attitude behavior model (VAB), theory of reasoned action (TRA), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Cao et al., 2020), among them, the TAM is the most influential model for technology adoption.

TAM model suggests number of factors that influence users' decision to use new technologies. TAM suggests that there are two factors that determine whether a computer system will be accepted by its potential users: (1) Perceived Usefulness, and (2) Perceived Ease of Use. The model suggests that Perceived Ease of Use has a causal antecedent to Perceived Usefulness, rather than being a direct cause of technology adoption behavioral intention.

Venkatesh and Bala further enhanced TAM and produced the TAM3 model (Venkatesh and Bala, 2008) that covered various determinants of perceived usefulness and perceived ease of use. They classified the determinants into four categories: (1) system characteristics, (2) individual differences, (3) social influence and (4) facilitating conditions. System characteristics covered Output quality, Result demonstrability, Objective usability and Computer self-efficacy. Individual differences covered Computer anxiety, Computer playfulness, Perceived Enjoyment, Personal innovativeness and Job relevance. Social influence covered Image and Subjective norm, whereas Facilitating conditions covered external control factors such as Access to infrastructure and technology appliances. TAM3 points to Experience as an important moderating factor. Venkatesh and Bala indicate that with increasing hands-on experience with a system, a user will have more information on how easy or difficult the system is to use. In addition, Venkatesh and Bala found that experience also moderates the effect of computer anxiety on perceived ease of use, where with increasing experience, the effect of computer anxiety on perceived ease of use became weaker. Objective usability and perceived enjoyment become stronger determinants over time because effects of general computer beliefs (e.g., computer anxiety) will diminish with increasing experience.

Though the basic TAM3 presents a rigorous explanation in predicting the user's acceptance of technology, other studies in technology acceptance suggest that additional explanatory variables are needed depending on the specific technology context (Tom Dieck & Jung, 2015). In the following we explore additional determinants to TAM3 as suggested by different research contributions.

Trust & Reputation

Cao et al. (2020) suggest that due to the high *perceived risk* in online communities, it is critical to ensure users' *trust* in mobile health services. Similarly, Alam et al. (2020) indicate the importance of *perceived reliability* in mobile health services adoption. *Trust* is a governance mechanism in response to uncertainty, vulnerability, and dependence (Bradach and Eccles, 1989). Doney and Cannon (1997) indicate that *reputation* can be defined as the extent to which buyers believe a selling organization is honest and concerned about its customers. Jarvenpaa et al. (2000) argue that buyer *trust* in an Internet store is positively influenced by the store's *perceived reputation*. Zhou (2019) examined the relationship among *privacy concern*, *trust* and motivations underlying the users' knowledge sharing intention in online health community. It is concluded that both *information quality* and *service quality* positively affect trust in online community, as well as *privacy*

risk avoidance is suggested to influence users' knowledge sharing intention in online communities. Similarly, Cao et al. (2020) indicate that doctors' *information quality* and *virtual presence service quality*, along with transfer-based experience (i.e., *trust in the offline healthcare service*) positively influence trust in mobile health services.

Output Quality

Quality is an important determinant of the long-term success of any electronic service intervention (Alter 2010). When shopping online, consumers rely on descriptions and customer reviews provided on the products that help consumer form an imagination of the product. Website information quality covers factors such as relevancy, clearness, timeliness, accuracy and consistency. Website quality is also related to user interface design features, like website ease of use, ease of navigation and interactivity, as well as technical properties of the Website such as response time and download time (McKinney et al., 2002). User perception of Website service quality can be improved through *personalized service* and privacy protection. This in turn will decrease the perceived risk and build the initial trust in online service (Cao et al., 2020).

Gender, Age, Experience as Moderating Factors

TAM3 assured the role of experience as a moderating factor in technology acceptance. This was supported by several research, for example Choi et al. (2010) suggested that prior experience has a moderating effect on technology acceptance of IP TV services in South Korea.

Although gender is considered as an important factor in technology adoption, original TAM makes no references of gender differences. Thus, gender, as a moderating factor, received less consideration in past technology adoption research compared with other factors such as age, culture and experience (Hoque, 2016). On the other hand, Alam et al. (2020) conclude that gender has a significant moderating effect on mHealth services adoption.

It is also reported modest m-health adoption in older generations. Fox & Connolly (2018) indicate that older generations reluctance stems from mistrust, high risk perceptions, and strong desire for privacy. In contrary, the younger generations have great dependence on mobile devices and have more potential to adopt mobile applications (Badillo-Torres et al., 2019). Generation Y represent those born in the decades of the 80s and 90s, are also called Millennials, and are considered the first digital natives. Whereas Generation Z are those born during the present millennium and tend to be impatient and very self-learning oriented due to their intensive use of the Internet (Campbell et al., 2015; Badillo-Torres et al., 2019). Having said that, little research is directed to study user acceptance behavior of the Millennium generations (Generation Y and Generation Z). This research is aimed to focus on preferences of those two generations in adopting mHealth applications.

Research Questions & Methodology

Research Method

The study uses structural equation modelling SEM technique, with Partial Least Squares (PLS) path modeling method, as the aim of the study is to explain and predict the theoretical constructs of user acceptance of mobile health recommender systems. In addition, the constructs have crossover effect that can be handled with cause-and-effect features of SEM. SEM is suitable for the current research as it models relationships among multiple independent and dependent constructs simultaneously instead of measuring only one layer of linkages between independent and dependent variables at a time.

The study employs a questionnaire to access research constructs using multi-item questions validated in various studies of Technology Acceptance Model TAM3. We used validated questions from TAM3 to describe perceived ease of use, perceived usefulness, output quality and computer anxiety (Venkatesh and Bala, 2008). Perceived Usefulness and Output Quality questions of TAM3 were further enriched with items from Website Quality and Online Perceived Value literature (McKinney et al., 2002) (Putri & Pujani, 2019) (Tom Dieck & Jung, 2015). Trust and reputation questions were derived from Cao et al. (2020), Jarvenpaa et al. (2000) and Zhou (2019) literature as indicated in Table1.

Table1: Source of Multi-item Questions of User Acceptance Constructs

Construct	Multi-item Questions Source
Perceived Usefulness PU	Venkatesh and Bala (2008) Tom Dieck & Jung (2015) Putri & Pujani (2019)

Perceived Ease of Use PEOU	Venkatesh and Bala (2008)
Perceived Output Quality OQ	Venkatesh and Bala (2008) McKinney et al. (2002) Tom Dieck & Jung (2015)
Perceived Trust Trust	Jarvenpaa et al. (2000) Zhou (2019) Cao et al. (2020)
Perceived Reputation Repu	Jarvenpaa et al. (2000) Zhou (2019)
Perceived Computer Anxiety CANX	Venkatesh and Bala (2008)

Demographic factors were measured using two constructs (Age and Gender), whereas Experience was measured by three constructs (mobile usage proficiency, mobile search attitude and prior use of mHealth recommender). All of the constructs, except moderating variables, were measured in a structured format on a five-point Likert-type scale, ranging from “strongly disagree” to “strongly agree.” The moderating variables were assessed using categorical measures.

We excluded TAM3 constructs related to Computer Playfulness and Perceived Enjoyment, as these are not closely related to mHealth acceptance. Social norm and external control/facilitating conditions were also not included in this study as it is aimed to focus on issues specific to behavioral intention of Generation Z & Y, taking into consideration that social norm and facilitation conditions are not a pivotal to acceptance of health recommender and safety applications.

Appendix A presents the questionnaire used in this study. We developed the primary version of the questionnaire in English, and then translated it into the local language (Arabic).

Research Questions

According to TAM3 findings and literature reviewed on Perceived Trust and Perceived Reputation (as detailed in previous section) user acceptance of mHealth applications is influenced by the following constructs and hence research hypotheses are formed:

Hypothesis 1: Perceived Usefulness has a positive effect on Behavioral Intention to Use mHealth applications

Hypothesis 2: Perceived Ease of Use has a positive effect on Behavioral Intention to Use mHealth applications

Hypothesis 3: Perceived Trust has a positive effect on Behavioral Intention to Use mHealth applications

Hypothesis 4: Perceived Ease of Use has a positive effect on Perceived Usefulness

Hypothesis 5: Perceived Reputation has a positive effect on Trust in mHealth applications

Hypothesis 6: Perceived Output Quality has a positive effect on Perceived Trust

Hypothesis 7: Perceived Output Quality has a positive effect on Perceived Usefulness

Hypothesis 8: Perceived Technology Anxiety has a negative effect on Perceived Ease of Use

Hypothesis 9: Experience has a significant moderating effect on Behavioral Intention to Use mHealth applications

Hypothesis 10: Age has a significant moderating effect on Behavioral Intention to Use mHealth applications

Hypothesis 11: Gender has a significant moderating effect on Behavioral Intention to Use mHealth applications

Results & Findings

Respondent Data

To target Generation Z the questionnaire was distributed among university students in their second year, studying Business with specialty in Management Information Systems. Whereas for Generation Y the questionnaire was distributed among junior employees working in a government-related think-tank. Total of 136 valid questionnaires have been collected. Respondent characteristics are shown in Table2.

Table2: Respondent Characteristics

Control Variable	Category	Count	Percent
Gender	Male	63	46%
	Female	73	54%

Age	Generation Z Under 25	92	68%
	Generation Y 25-39	44	32%
Experience			
Mobile Proficiency	Novice	0	0%
	Intermediate	43	32%
	Professional	93	68%
Search for data on Mobile	Rarely	17	12%
	Occasionally	32	24%
	Frequently	87	64%
Prior Experience with mHealth Recommender	Yes	54	40%
	No	82	60%

Results

The data collected was analyzed with Python SEM package that fits the data to the proposed structural model and calculates the Path coefficient and the corresponding p-value. It is known that p-value less than 0.05 is an acceptable measure, as it indicates that only 5% of sample data do not fit the suggested relationship. Table 3 shows the results for the suggested Structural Model following the hypotheses outlined in previous section. It shows the hypotheses that have been supported by the sample data, and those that were rejected. Whereas Table 4 shows the auxiliary relationship between the latent variables the SEM analysis supported.

Table3: Structural Model

Dependent Variable	Independent Variable	Path Coefficient	Standard Error	p-value	Significance Level
<u>TRUST</u>	<u>REPU</u>	<u>4.022128</u>	<u>1.857963</u>	<u>0.030403</u>	<u>ACCEPTED</u>
Trust	OQ	-0.13202	0.091363	0.148443	Rejected
<u>PU</u>	<u>PEOU</u>	<u>1.26932</u>	<u>0.251074</u>	<u>4.29E-07</u>	<u>HIGHLY ACCEPTED</u>
PU	OQ	0.158346	0.11677	0.175083	Rejected
<u>PEOU</u>	<u>CANX</u>	<u>-0.63994</u>	<u>0.124392</u>	<u>2.68E-07</u>	<u>HIGHLY ACCEPTED</u>
BI	Trust	-0.03425	0.128407	0.789672	Rejected
<u>BI</u>	<u>PU</u>	<u>0.384609</u>	<u>0.080439</u>	<u>1.74E-06</u>	<u>HIGHLY ACCEPTED</u>
BI	PEOU	0.02393	0.160661	0.881598	Rejected
<u>BI</u>	<u>EXP</u>	<u>-1.14353</u>	<u>0.389345</u>	<u>0.003313</u>	<u>HIGHLY ACCEPTED</u>
BI	Age	0.14215	0.09182	0.121589	Rejected
<u>BI</u>	<u>GENDER</u>	<u>0.415418</u>	<u>0.086144</u>	<u>1.42E-06</u>	<u>HIGHLY ACCEPTED</u>

Table4: Auxiliary Relations between Latent Variables

Dependent Variable	Independent Variable	Path Coefficient	Standard Error	p-value	Significance Level
CANX	EXP	-0.09148	0.024289	0.000166	<u>HIGHLY ACCEPTED</u>
CANX	OQ	-0.31581	0.065827	1.61E-06	<u>HIGHLY ACCEPTED</u>
Repu	OQ	0.101567	0.046165	0.027802	<u>ACCEPTED</u>
PU	Trust	0.058009	0.018922	0.002171	<u>HIGHLY ACCEPTED</u>

Based on the SEM analysis (Table3 & Table4) we conclude the acceptance of several hypotheses made in this research, but also point out rejection of some hypotheses, and we provide possible reasons for rejection that would improve understanding of acceptance of mHealth application, as follows:

Hypothesis 1 HIGHLY ACCEPTED: Perceived Usefulness has a positive effect on Behavioral Intention to Use mHealth applications

Hypothesis 2 REJECTED: Perceived Ease of Use has a positive effect on Behavioral Intention to Use mHealth applications

This could be justified as 60% of respondents of the current study's sample did not use an m-Health recommender before but have heard about such experience from relatives and friends. On the other hand, this result confirms TAM3 suggestions concerning Perceived Ease of Use, having less effect on Behavioral Intention than Perceived Usefulness.

Hypothesis 3 REJECTED: Perceived Trust has a positive effect on Behavioral Intention to Use mHealth applications

Having said that, it is found that Perceived Trust has a noticeable direct positive effect on Perceived Usefulness (Table4), rather than directly affecting Behavioral Intention.

Hypothesis 4 HIGHLY ACCEPTED: Perceived Ease of Use has a positive effect on Perceived Usefulness

Hypothesis 5 ACCEPTED: Perceived Reputation has a positive effect on Trust in mHealth applications

Hypothesis 6 REJECTED: Perceived Output Quality has a positive effect on Perceived Trust

Output Quality has a positive effect on Perceived Reputation (Table4), rather than direct effect on Perceived Trust.

Hypothesis 7 REJECTED: Perceived Output Quality has a positive effect on Perceived Usefulness

Taking into consideration that the sample contains 60% of respondents who did not use an m-Health recommender before, so quality measures were evaluated through experiences from others, and with cautious attitude.

Hypothesis 8 HIGHLY ACCEPTED: Perceived Technology Anxiety has a negative effect on Perceived Ease of Use

Hypothesis 9 ACCEPTED: Experience has a significant moderating effect on Behavioral Intention to Use mHealth applications

Experience was found to have a negative effect on Behavioral intention, this could be justified that user with prior exposure to mobile applications and online services, can identify some weaknesses and hence are reluctant to use the online service again. This needs to be further tested on a larger sample.

Hypothesis 10 REJECTED: Age has a significant moderating effect on Behavioral Intention to Use mHealth applications

According to sample data there is no difference found between Generation Z & Y regarding the behavioral intention to use mHealth applications.

Hypothesis 11 HIGHLY ACCEPTED: Gender has a significant moderating effect on Behavioral Intention to Use mHealth applications

Gender has been pointed as significant control variable in user acceptance of online services. The current study found that females have higher behavioral intention to use mHealth applications than males.

Discussion

Based on the Technology Acceptance Model, this study is aiming to confirm a hypothesized significant relationship between variety of constructs, and the behavioral intention to use mHealth applications. A questionnaire was conducted with 136 of representative sample and data was analyzed using SEM. The analysis of the structural model indicates a high degree of significance for the accepted relationships with p-value much less than 0.01 in several cases and the outcome of the analysis is shown in Figure1.

Confirming with previous research, the result of the current study suggests that Perceived Usefulness has a significant positive effect on behavioral intention to use mobile health recommender system (Venkatesh and Bala, 2008). This direct relationship is affected by user characteristics, namely gender and experience using technology. Females showed higher intention to use mHealth applications, this agrees with previous work confirming the effect of gender in adoption of new technologies (Alam et al., 2020). Experience was found to have a negative effect on Behavioral intention, this could be justified that experienced users can identify some weaknesses in the current applications, and hence are reluctant to use them. While this finding confirms previous work indicating that with increasing hands-on experience with a system, a user will have more information on how easy or difficult the system is to use (Choi et al., 2010). Still, such findings need to be further tested on a larger sample.

The current research confirms the important role of Trust in new technology adoption (Cao et al., 2020). According to the findings of the current research, Perceived Usefulness can be significantly increased by increasing Trust and Perceived Ease of Use, where Reputation and Output Quality have a significant effect on building Trust in mHealth applications. This specific finding agrees with previous work of Jarvenpaa et.al., 2000, highlighting the important effect of online services' Reputation & Quality.

Computer anxiety has a significant negative effect on Perceived ease of Use and is affected by both Experience and Output quality in a negative way. This confirms with previous research on TAM3 (Venkatesh and Bala, 2008). They indicated that Experience and Output Quality moderate the effect of computer anxiety, where with increasing experience and Output Quality, the effect of computer anxiety on perceived ease of use became weaker.

These findings provide a basis for improving the understanding toward factors affecting mHealth applications in developing countries.

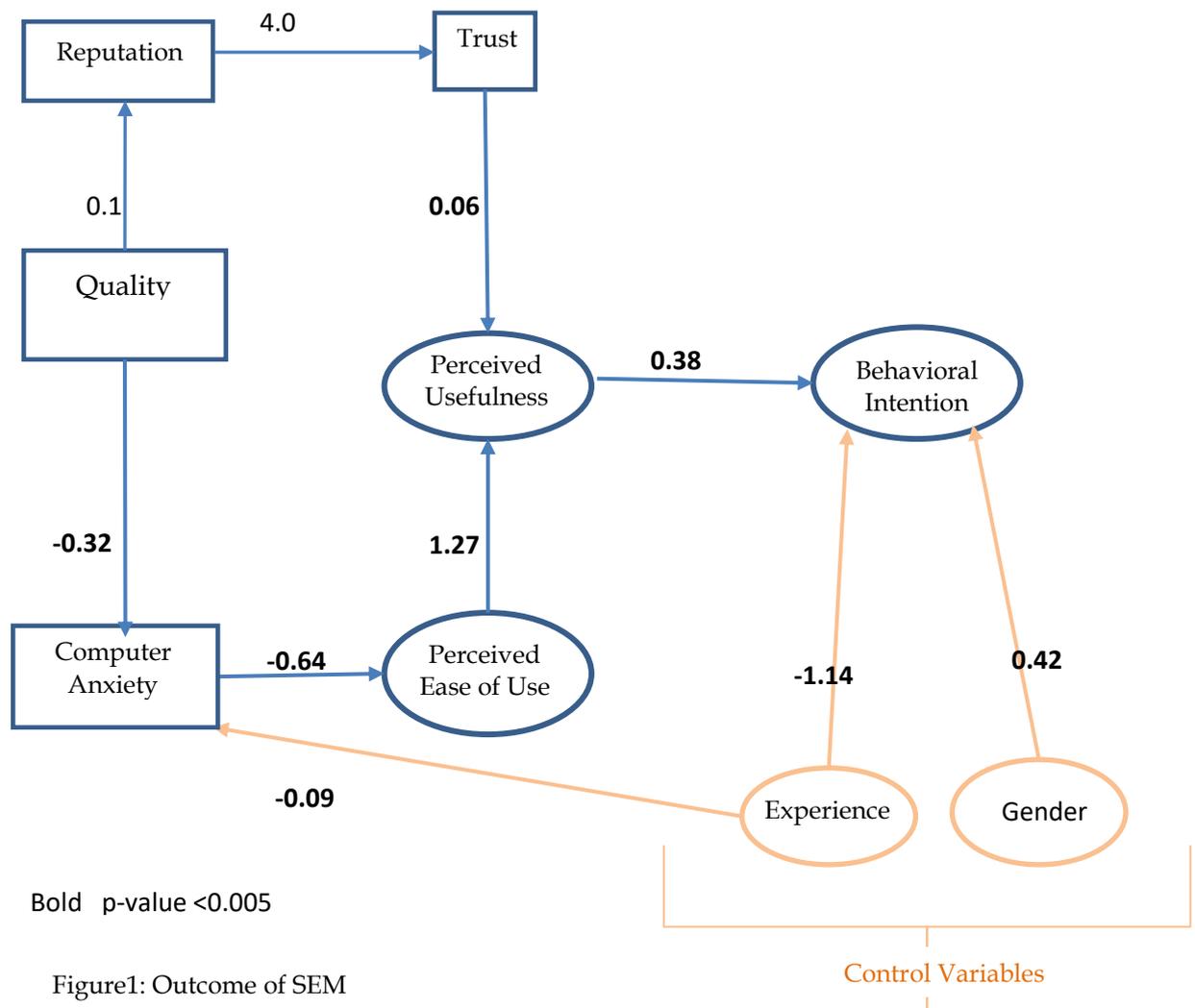


Figure1: Outcome of SEM

Conclusion and Implications

mHealth applications can enhance the quality and access of health services in developing countries, still the adoption of mHealth applications in developing communities is very low. On the other hand, younger generations have great dependence on mobile devices and have high potential to adopt mobile applications. Results of this study suggest factors that affect user acceptance of mobile health recommender system among Generations Z (between 10 and 25 years old) & Y (between 26 and 40 years old). Such factors include Perceived Usefulness which is suggested to have a direct significant positive effect on mHealth adoption, Trust and Perceived Ease of Use, both having a significant effect in increasing Perceived Usefulness, and Perceived Reputation and Output Quality having a significant effect in building Trust.

Findings of the current research can highlight some of practical design recommendations for mHealth designers. Building Trust could be achieved through the “about us” section placed in a noticeable part of the application. Trust can also be built through the recognition of the application using advertising and by highlighting positive users’ reviews and quality of the service. mHealth applications might be able to increase their Perceived Reputation by quoting policies for users’ satisfaction and refunds.

Limitations and direction for future research

Firstly, the research findings are solely based on the results of a survey. Although the sample size is relatively large, a triangulation of data collection methods is needed, to capture more authentic perception of mHealth users. Future work is aiming to conduct semi-structured interviews to complement the data collected in this research. Such qualitative data might strengthen the research model suggested in the current research, more factors affecting behavioral intention to use mHealth applications, might be revealed. Secondly, all the survey participants reported a high to intermediate level of technology familiarity, and they were all located in Cairo, with high technology awareness and intellectual skills. Future work would consider users with diverse characteristics and in rural areas in Egypt. In addition, Generation Z represented in the sample data are two times of Generation Y respondents, future work needs to include more of Generation Y.

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Appendices

Appendix A: Questionnaire used in the Study

Please Tick the Appropriate Category

1 Gender	Gender	O Male		O Female	
2 Age	Age	O Under 25	O 25-39	O 40-60	O Over 60
3 ExpMobileProf	How would you rate yourself as a user of the Mobile apps	O Novice	O Intermediate		O Professional
4 ExpSearch	How often do you search for data on Mobile Apps	O Never	O Rarely	O Occasionally	O Frequently
5 ExpPrior	Did you ever used a Health Recommender Mobile App, such as Zezeeta?	O Yes or No			

Please Tick the Appropriate Category, even if you never used a Health Recommender Mobile App before.

		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
		1	2	3	4	5
1 PUAlternative	The app is a good alternative to word of mouth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 PUSpeeds	Using the App speeds up the process of booking doctors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3 PUEnriches	The App enriches my information on the doctor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4 PUSkillful	Using the App helps me find a skilful doctor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 PEOUEasy	I find the App easy to use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6 PEOUDoWhat	It is easy to get the App to do what I want to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7 PEOUNoHelp	Interacting with the App does not require external help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8 RepuKnown	This App is well known	<input type="radio"/>				
9 RepuGood	This App has a good reputation in the market	<input type="radio"/>				
10 RepuRecomm end	Others recommended using the App	<input type="radio"/>				
11 TrustTrust	I trust this App	<input type="radio"/>				
12 TrustRating	I trust the ratings and reviews of the doctors on the App	<input type="radio"/>				
13 TrustPrivacy	I would provide personal information to this App	<input type="radio"/>				
14 BI	I am very likely to consider using this App in the future	<input type="radio"/>				
15 CANXScare	Technology do scare me.	<input type="radio"/>				
16 CANXNevous	Working with a mobile app makes me nervous.	<input type="radio"/>				
17 CANXUncom fort	Mobile apps make me feel uncomfortable.	<input type="radio"/>				
18 OQInfomation	The quality of information given on the doctor is high	<input type="radio"/>				
19 OQRating	The ratings and reviews given on the doctor are reliable	<input type="radio"/>				
22 OQPersonaliz e	The App provides a personalized experience	<input type="radio"/>				

Defining employee pro-environmental, social and governance behaviors

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Keywords

corporate social responsibility; ESG, ethics, governance, human resources

Abstract

Purpose. With the increasing importance of environmental, social and governance (ESG) reporting, organizations are seeking ways to improve ESG performance. One of these ways is encouraging employee behaviors that support ESG. While some research has examined employee behaviors that support specific components of ESG, such as pro-environment behavior, this research is fragmented. Thus, the purpose of this paper is to review the various ESG outcomes which employees can influence, and then propose a single scale to measure employee support for ESG, along with recommendations for future research.

Methodology. The authors reviewed ESG reports from several large, multinational companies, as well as previous research on ESG and corporate social responsibility. The authors sought to identify ESG outcomes which employees can influence, and then develop a scale based upon these areas.

Findings. The authors identify several areas within ESG which employees can influence. These include areas such as support for volunteering, employee giving campaigns, diversity and inclusion, environmental initiatives, data governance and others. Based upon these findings, the authors developed the above-mentioned scale.

Originality. While previous studies have examined employee support for specific components of ESG, this paper offers a comprehensive framework. In particular, there has been little research focused on employee support for governance behaviors, such as data stewardship.

Study implications. This paper provides a scale which can be used to measure employee support for ESG behaviors. This scale can help employers understand their employees' level of support for ESG. In addition, it can help researchers understand whether employee support for ESG is related to organization-level outcomes, such as ESG ratings.

Defining employee pro-ESG behaviors

1. Introduction. In recent years, the importance of environmental, social and governance (ESG) performance of organizations has grown significantly (Duque-Grisales and Aguilera-Caracuel, 2019). ESG performance includes measures which show the quality of a firm's relationships with its various stakeholders (Friede, Busch, and Bassen, 2015). This is often reflected in the firm's efforts at corporate social responsibility (CSR). CSR includes initiatives such as reducing harm to the environment, developing human capital within and outside the firm, and practicing responsible business practices which benefit employees, customers, and other stakeholders. ESG is often construed as the organization's efforts to report out on these CSR initiatives. For this reason, it is of particular importance to publicly traded companies, which undergo a high level of outside scrutiny.

Firms have begun to publish ESG reports, which provide metrics on their progress toward the above efforts. Metrics may include, for example, the amount of energy consumed by the firm, financial value of philanthropic donations, demographic makeup of executives and board, and percentage of employees trained on responsible customer data management. Based upon these reports, outside ratings agencies such as MSCI, Bloomberg, and Thomson Reuters provide ESG ratings of the firms. Some reports are over 100 pages and require a significant commitment of firm time and resources to write.

Because of this high cost and visibility of ESG reporting, considerable research has investigated its financial outcomes. These outcomes include firm value (Fatemi, Glaum, and Kaiser, 2020) portfolio returns (Madhavan, Sobczyk, and Ang, 2021), and stock price reactions (Serafeim and Yoon, 2022). Reviews of the research indicate that ESG ratings are positively correlated with firm financial performance (Friede et al.,

2015), so firms seek ways to improve these scores. Because of this, some research has focused on factors that drive ESG performance. Some of the studied antecedents include board makeup (Shaukat, Qiu, and Trojanowski, 2016) and firm size (Drempetic, Klein, and Zwergel, 2020).

2. Literature Review

While considerable research has investigated macro level factors, little research has examined how employee behaviors support ESG initiatives. This is surprising, considering the role that employee performance plays in advancing firm strategy (Huselid, 1995). Some research has been conducted on employee behaviors which could impact ESG, such as volunteering (Rodell et al., 2016) employee pro-environment behavior (Afsar, Cheema, and Javed, 2017; Afsar and Umrani, 2019), and employee compliance with data protection standards (Foth et al., 2012). However, these research streams have been conducted separately, without considering their combined contribution to ESG.

Given these separate research streams, it will be helpful to create a comprehensive framework for identifying the employee behaviors that contribute to ESG performance. These behaviors can be identified through a review of ESG reports. They may include, for example, areas such as employee charitable donations, support for employee diversity and inclusion practices, and speaking up when company non-compliance is witnessed. In many cases, the firm provides some formal framework for the activity. For example, the firm might set up a charitable donations program or a non-compliance hotline. However, employee participation is voluntary, and depends on individuals taking initiative and acting conscientiously.

We define employee pro-ESG behaviors as “discretionary employee actions that contribute to the environmental sustainability, social sustainability, and governance of the employer organization but are not under the control of any formal management policies or system” (Kim et al., 2017). Theoretically, employee pro-ESG behaviors resemble organizational citizenship behaviors (Smith, Organ, and Near, 1983), in that they fall outside of “formal role expectations” and “not easily governed by individual incentive schemes.”

It’s worthwhile to note what is *not* included in employee pro-ESG behavior. Some ESG outcomes are “top-down;” that is, they are influenced at the top management level. Rank and file employees have little to no influence over these outcomes, so they are also not employee pro-ESG behaviors. These top-down efforts include, for example:

- Where to source energy to power the firm’s facilities
- Incorporating sustainable materials into product design
- Labor policies based upon human rights
- Offering mental health support for employees

By using the term “discretionary,” we argue that employee pro-ESG behavior should not include activities that are part of normal business activity. For example, when a banker provides a loan in a low-income area, this may bring benefits to society, and is often included in bank ESG reports. However, the loan is still part of that banker’s job description and part of the bank’s normal course of business. Thus, it should not be considered employee pro-ESG behavior.

As noted above, several of the concepts that fall under employee pro-ESG behavior have been studied previously. These include concepts such as pro-environment behavior, volunteering, and compliance. In this paper, we will attempt to bring these concepts together, while adding others, into a single concept focused on employee behaviors which support ESG in one’s organization. We will conduct a review of ESG reports from a list of large global companies (Table 1.), to identify activities valued by employers and ratings agencies. We will consider which of these activities are at least partly under employee control. We will also consider how some of these concepts have been measured previously, and which key factors they influence. Finally, we will propose a scale for measuring pro-ESG behavior, along with recommendations on next directions for research.

Table 1. List of firms included in ESG report review

Allianz

Apple
AXA
Disney
Fifth Third Bank
Lloyds of London
Marriott
McDonald's
Nvidia
Nestle
Patagonia
Samsung
Starbucks
Toyota

Employee pro-environment behavior. The first major component of pro-ESG behavior is pro-environment behavior. Employee pro-environment behavior has been defined as “discretionary employee actions that contribute to the environmental sustainability of the employer organization but are not under the control of any formal environmental management policies or system” (Kim et al., 2017). ESG reports include a number of environmental outcomes that may be under employee control, if the employee works onsite. These include outcomes such as kilowatt-hours used, amount of water used, and amount of material recycled. The assumption is that employees can choose whether to turn lights off, conserve their water usage, and place materials in recycling bins. Research has indicated that employee pro-environment behavior is related to firm environmental performance (Channa et al., 2021).

In the research on employee pro-environment behavior, measures assume that employees work onsite in an office environment. For example, a scale provided by Roberston and Barling (2013) contains items such as “I print double-sided whenever possible,” “I turn lights off when not in use,” and “I put compostable items in the compost bin.” As employees begin to work from home in greater numbers, these measures may not be as relevant for certain employees. Also, organizations have trended toward automating features such as double-sided copying (when photocopiers are used at all) and sensors which turn off lights after people leave a room. Thus, we may be measuring behaviors which the employee cannot control, and we may be neglecting behaviors which are of vital importance to organizations.

If employees are working offsite, their work-related pro-environmental behavior may also become melded with their pro-social behavior. For example, employees may participate in beach cleanups or tree plantings, which support both the environment and the community. The employee logs this activity with their employer, who then aggregates them in the ESG report. Given that employee pro-environment behavior can vary significantly, depending on the work setting, more general measures of pro-environment behavior may be appropriate.

Employee pro-social behavior. Our review of ESG reports indicates that employee pro-social behavior typically falls into two categories: 1) support for human capital and 2) employee charitable donations (often referred to as “employee giving”). Regarding human capital, a key area of focus is diversity and inclusion. For example, ESG reports may reveal what percentage of managers, professionals and individual contributors are women or from a traditionally underrepresented minority. Reports may also reveal internal involvement in multiracial recruitment strategies and employee resource groups (ERG's). ERG's provide support and networking opportunities for traditionally underrepresented groups. For example, Disney's ESG report boasts over 90 ERGs worldwide, and notes that over 500 employees have served as Belonging Advocates to help foster inclusion in the workplace. Employees may also engage in training opportunities to learn more about diversity and inclusion (Weithoff, 2004). These are areas that most employees can voluntarily support. For example, a hiring manager has the discretion to seek out a diverse slate of candidates for an open position. An individual contributor has the discretion to attend an event presented by an ERG.

Another set of pro-social behaviors includes activities such as employee charitable giving and volunteering. Unlike the above human capital examples, these activities are focused outside the organization. Research has found that employee volunteering is associated with improved employee

attitudes and performance (Rodell et al., 2016), and can aid with employee retention (Jones and Willness, 2013). As with employee giving, firms often identify specific beneficiaries for volunteering, and encourage employees to donate their time. However, participation is optional. For example, Lloyds of London employees may volunteer to plant trees for the Woodland Trust or mentor low-income students through the Lloyds Scholars Program. Employee volunteer hours are often aggregated in the ESG report. Disney noted that employees donated 340,000 hours in 2021 to the Disney VoluntEARS efforts, such as supporting pediatric patients, providing relief to victims of natural disasters, and helping underserved children prepare to return to school each Fall.

Charitable giving campaigns give employees the opportunity to contribute to nonprofit organizations, typically via deductions from payroll (Osili, Hirt, and Raghavan, 2011). While the employer usually provides a list of beneficiary organizations, the employee is free to choose whom to donate to, and whether to donate at all. Within the realm of ESG, it's important to distinguish between donations provided by the firm itself vs. those which are discretionarily provided by employees. This can be difficult to disentangle in an ESG report. For example, Fifth Third Bank's ESG report notes that in 2020, "employees and the Fifth Third Foundation" combined to raise \$5 million for the United Way philanthropy but does not break out how much each of these two groups donated. The report does indicate that the Young Professionals ERG organized a food box drive for a local community shelter, but it does not provide the dollar value of those donations. Clarifying how much money comes from employees is an opportunity for organizations as they seek to improve ESG reporting.

Employee pro-governance behavior. The final area of employee pro-ESG behavior includes activities that contribute to the sound governance of the organization. This may include, for example, effective stewardship of firm, employee, and customer information. It may also include identifying internal risks and non-compliance issues, including whistleblowing. Most previous research has focused on employee pro-CSR behaviors, which does not necessarily include governance. We argue that pro-governance behaviors are a worthwhile area of study because these employers wish to see them from employees, and because they are within employee control, despite not being considered a part of the enumerated duties.

A key governance area where employees have influence is concern for consumer wellbeing. In ESG reports, this can vary according to industry. In a financial services organization, this involves ensuring that customers fully understand products and are not pressured into purchasing unneeded services. In food and manufacturing industries, it involves producing products that are healthful and safe. Tourism and hospitality firms are particularly interested in fostering employee behavior that keeps customers physically safe and hygienic. Relatedly, research has examined customer safety in areas such as tourism and retail, especially in the wake of the COVID pandemic (Park and Lehto, 2021). Other research has examined customers' perceived safety of financial transactions (Belás, Korauš, and Gabčová, 2015). Our review shows a dearth of research focused on understanding employee motivation to look out for customer wellbeing.

While top management policy likely has a significant influence over customer wellbeing, there are areas that individual employees can control. For example, financial services firms often require all employees to take training in fair customer treatment. This is true even for employees who are non-customer-facing, as even support staff can influence risk outcomes that affect the customer.

Another governance area is sound data management. This can include data related to customers, employees, and third parties such as vendors. Encouraging employee compliance with data management policy has become essential, as information security issues often result from employee behavior (Hu et al., 2012). This area of behavior has been described as "effortful security behavior" and includes discretionary employee actions, such as taking the time to create a more complex password (Xu and Guo, 2019). ESG reports track employee metrics such as the percentage of people who have completed data compliance trainings.

ESG reports may also provide information on programs focused on identifying internal issues of risk and non-compliance. From a research perspective, this issue has been investigated within the frameworks of employee voice, which is defined as "promotive behavior that emphasizes expression of constructive challenge intended to improve rather than merely criticize" (Van Dyne and LePine, 1998). Another relevant area is employee whistleblowing, which consists of employees voluntarily reporting suspected instances of internal fraud or other potentially illegal activity (Lowe, Pope, and Samuels, 2015). Firms seek these

voluntary behaviors from employees because they help reduce instances of fraud and legal risk (ACFE, 2012).

As an example, Lloyd's of London's ESG report notes its Speak Up program, in which employees are encouraged to submit concerns related to topics such as employee safety, bullying and harassment. The report provides metrics on the number of concerns submitted and the percentage of concerns that led to investigations. Toyota also provides information on its Speak Up hotline, with detailed information on the number and content of the issues submitted. Employee engagement in resources such as Speak Up provide another instance of employee pro-ESG behavior, as they are voluntary and contribute to the quality of the firm's governance.

3. Research Methodology and Results

After reviewing the above-mentioned research and ESG reports, we developed a scale to measure employee pro-ESG behaviors (Table 2). This scale covers behaviors related to the environment (reducing energy and recycling), pro-social outcomes (supporting diversity and inclusion, volunteering and employee giving), and governance (sound data management, looking out for the customer's best interest and speaking up in cases of firm non-compliance). The pro-environment items are more general than those used in previous research (Robertson and Barling, 2013). Other activities are worded so that the respondent does not need to be a people leader. For example, the diversity and inclusion item simply ask whether the employee supports hiring persons from diverse backgrounds; this question can be answer by a people leader or individual contributor.

Table 2. Scale of employee pro-ESG behaviors (1=Strongly disagree; 5=Strongly agree)

- I support my organization's efforts to improve the environment.
- At work, I practice habits to reduce energy use when possible.
- At work, I recycle when possible.
- I participate in activities to support diversity and inclusion at my organization.
- I support hiring people from diverse backgrounds at work.
- I participate in volunteer activities on behalf of my organization.
- I donate money to charities on behalf of my organization.
- At work, I practice sound data management.
- I look out for the best interest of the customer.
- I make every effort to ensure that our products and services are safe for our customers.
- At work, if I see something that is a violation of policy, I speak up and let a manager know about it.
- I support my organization's environmental, social, and governance initiatives.

4. Discussion, Limitations and Future Research

In this paper, we have offered a framework for identifying and measuring employee pro-ESG behaviors. We have argued that a general framework is needed to understand employee behaviors that impact ESG performance. After reviewing ESG reports and research, we have provided specific areas that employees can influence, along with a proposed scale intended to measure those behaviors.

The first step in research is to validate the proposed scale. It is recommended that the scale be distributed to persons from a variety of industries. This is because certain industries may focus on some aspects more than others. For example, a financial services industry may focus more heavily on sound data management, while an entertainment-focused organization may be more focused on customer safety and fostering goodwill with the public through volunteering.

After the scale has been validated, future research could consider a model of pro-ESG behaviors. Such a model could use a behavioral intention framework, such as the Theory of Planned Behavior (TOPB) (Ajzen, 1991). The TOPB has effectively predicted employee support for a variety of organizational practices and initiatives, such as diversity training (Weithoff, 2004), the use of pay-for-performance (Wagner and Westaby, 2020), and structural interviews (Van der Zee, Bakker, and Bakker, 2002). This model could also include antecedents such as openness to experience and conscientiousness (Costa and McRae, 1988) and concern for firm reputation (Nieken and Sliwka, 2015). Another possible antecedent is employees' concern for the wellbeing of their customers and other stakeholders. Significant research has been conducted on

customer safety (Belás et al., 2015; Park and Lehto, 2021), but little is known about employees' motivations to act in the best interests of those customers.

Future research could also consider the outcomes of employee pro-ESG behaviors. A first area to explore is whether they are related to organization-level ESG ratings and financial performance (Friede et al., 2015). Other areas worth examining include employees' perceptions of their firm's external prestige (Kim, Lee, Lee, and Kim, 2010) and employee engagement (Khan, 1990).

Another consideration is to examine ESG ratings criteria for areas that are under employee control. As noted earlier, agencies such as MSCI, Bloomberg, S and P Global and Moody's provide ratings of firms' ESG performance. Criteria from these agencies can also be examined to uncover more areas within employees' influence. Standards such as ISO 26000, while focused specifically on CSR, may also provide additional behaviors to examine.

5. Conclusion

We extend the research by reviewing ESG reports and previous studies to identify outcomes which employees can influence. Our review showed that employees can impact ESG through a range of areas, such as volunteering, giving campaigns, diversity and inclusion, environmental initiatives, data governance and others. Based upon these findings, we offer a scale which is intended to measure employee support for ESG behaviors. Further research is needed to validate the scale. If validated, the scale can then be used to understand antecedents and outcomes of employee support.

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Knowledge management processes and strategic human resources management: Creating competitive advantage through employee innovation behavior

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Keywords

Competitive advantage, Employee innovation behavior, Knowledge management, Strategic human resources.

Abstract

Purpose: this paper aims to investigate the impact of Knowledge Management Processes and Strategic Human Resources Management on creating Competitive Advantage. The research investigated the direct impact of Knowledge Management Processes and Strategic Human Resources Management. In addition to exploring the impact by using the moderating role of Employee Innovation Behavior.

Research design, data, and methodology: the paper used quantitative approach to collect the data; 400 questionnaires were distributed at three telecommunication companies in Egypt "Vodafone, Etisalat, and Orange. The data collected from the questionnaires were statistically analyzed using SPSS and AMOS 22 programs to conduct a Structured Equation Model, Confirmatory Factor Analysis, and a Path Analysis.

Results: The results showed that there is a direct positive effect of knowledge management processes on competitive advantage. However, there is a direct positive effect of Strategic human resources management on organization competitive advantage. Furthermore, there is a direct positive effect of knowledge management processes on organization competitive advantage when employee innovation behavior. Besides, there is a direct positive effect of strategic human resources management on organization competitive advantage when employee innovation behavior is a moderator variable.

Conclusion: It can be concluded that to enhance the organizational innovation capability if the HR practices are prompted by the HR managers effectively. Through HR practices the knowledge can be administrated and shared effectively that will aid in attaining organizational innovation, as well as competitive advantages.

Introduction

Global competition required further innovation in organizations. This is based on building employees' capabilities and providing them with knowledge management (KM) support, which speeds up knowledge processes and improves performance. Companies have begun to foster a work environment that priorities learning and knowledge sharing. According to Zaim et al. (2018), knowledge has been recognized as the primary source of wealth creation and managing that knowledge efficiently and effectively is a key success factor for acquiring a sustainable competitive advantage. Furthermore, competitive advantage is dependent on the creation, leverage, and successful application of knowledge, particularly knowledge inherent in human origins; effective KM is an important element that allows companies to move faster and better than competitors (Banerjee, 2013). To achieve a competitive advantage, human resource management (HRM) must be used to manage human assets by developing competencies that generate organizational knowledge (Gope et al., 2018).

According to Yaghoubi (2017), knowledge is treated as one of the basic organizational skills. Laurini (2020), define knowledge management as an explicit, systematic, strategic, and new knowledge program to optimize a company's effectiveness and revenue. Besides, Akyol (2019) divided knowledge management process into several elements, its basic component is acquiring knowledge, second element is knowledge creation, the third element is knowledge sharing and its implementation within the organization, while (Yaghoubi, 2017) stated that knowledge management processes affect organizational learning and are treated as organizational ability. Therefore, paying attention to organizational learning helps promote a culture of innovation and creativity in the workplace and among employees (Meryem et al. 2017).

Organizations are increasingly looking at human resource as the important asset that can provide competitive advantage. Basically, strategic human resources management (SHRM) highlights the growing change in the HRM function from being prescriptive, reactive, and administrative to being descriptive, proactive, and executive. Allui & Sahni, (2016), noted that the concept of SHRM is related to the appropriate integration of HRM activities with the business strategy of the company. According to, Boon et al. (2018) stated that HRM practices were deemed as a system aimed at enhancing motivation and skills of employees. Additionally, the effective HRM practices can support innovation behavior among employees in organizations through generating and transferring knowledge (Luiza, 2016). To achieve competitive advantages, the HR practices can help in knowledge generation, innovation, and the commitment of an organization's employees.

Furthermore, Innovation is crucial for an organization to create and sustain competitive advantage. Among different innovation levels, employee innovation behavior has become an essential aspect of organizational innovation (Shih & Susanto, 2011). Li & Hsu (2016), also believes that employee innovation behavior (EIB) is the foundation of organizational innovation and is defined as employees' activities that seek, generate, and apply new ideas and solutions. On the other hand, employee innovation (EI) contains in-role components that are part of the prescribed work tasks and extra-role ones that go beyond formal role descriptions (Potocnik & Anderson, 2016). Given the fact that the role of human resources has become more fundamental in facilitating firms to seek ways of predicting EIB (Seeck & Diehl, 2017). Based on the belief that employees who contribute to enhance firms' capacity to innovate through their imagination, creativity, and intelligence, Veenendaal & Bondarouk, (2015) have suggested the role of HR practices in identifying, developing, assessing, and compensating EIB.

Additionally, creating and maintaining competitive advantage is the strategic goal of each company. Competitive advantage is a set of qualities that give businesses leverage over their competition, it allows businesses to offer their target market a product or service with higher value than industry competitors. Hence, the competitiveness among organizations has increased recently, directing companies in terms of the search for strategies to remain active on the market. Under this bias, strategic business management explores all available resources effectively, given that organizations are becoming more flexible and adaptable to change for greater business longevity (Crnkovic, Monteiro, & Dias, 2016). Additionally, Hamel & Breen, (2010) investigate that competitive advantage becomes an evolutionary advantage, as organizations keep up with the advanced technology and rely on innovative for offering unique products and services.

2. Literature Review

2.1 Knowledge Management

According to Dei (2019) defined Knowledge as a complex set of dynamic skills, know-how that is constantly changing and need to be managed as an organizational asset, process, and object. This requires lots of human efforts, and the deployment of to facilitate the processing, extraction, sharing, and storage of knowledge technology (Al Mansoori, Salloum, & Shaalan, 2021). Moreover, management of knowledge entails the identification, sharing, and creation of knowledge (Ganguly, Talukdar, & Chatterjee, 2019). This requires systems for the creation and maintenance of knowledge and to facilitate the sharing of knowledge (Farooq, 2018).

Moreover, Obeid & Rabay (2016) defined knowledge as the processes that help an organization acquire, organize, generate, and disseminate knowledge, as well as transfer important information and expertise to various management activities such as decision making, problem solving, learning, and strategic planning.

Furthermore, knowledge management is defined as the processes and activities that help an organization generate, acquire, discover, and organize knowledge, as well as use and disseminate it among employees, as well as transfer information and experiences that the organization has and apply them in management activities such as decision making, job procedures, and strategic planning (Hussinki et al., 2017).

2.2 Strategic Human Resources Management

Strategic human resource management (SHRM) first appeared in the mid-1980s and is now recognized as an important research and practice area in business administration (Kaufman, 2015). Given the significance of strategic performance in human resource management (HRM), its academic importance is gaining international traction (Jackson, Schuler, & Jiang, 2014). SHRM, according to Cania (2014), is "a process that involves the use of overarching approaches to the development of HR strategies that are integrated vertically with the business strategy and horizontally with one another." These strategies define intentions and plans relating to overall organizational considerations as well as more specific aspects of people management such as resourcing, learning and development, reward, and employee relations. As a result, SHRM practices are more focused on the strategic aspect of human resources in an organizational setting. SHRM is an effective use of HRs to assist firms in dealing with competition and environmental forces that can ensure the company's long-term objectives are met (Anthony et al., 2002).

Furthermore, strategic HRM alignment entails HRM being recognized as a strategic partner in the formulation and implementation of the company's strategies through HR practices such as recruitment, selection, training, and reward (Allui & Sahni, 2016). According to (Alnaqbi, 2011) HRM practices divided into two categories: those that improve skills and those that increase motivation. According to the study's findings, skill-enhancing activities like selection, training, and development are linked to turnover and financial performance, whereas motivation-boosting activities like performance appraisal and compensation are linked to productivity.

Previous SHRM research has increasingly relied on the firm's resource-based view (RBV) to explain the role of SHRM in firm performance (Nyberg et al., 2014; Shaw et al., 2013; Carbery et al., 2013; Bidmeshgipour, 2012; Ismail et al., 2010). Saddam & Abu Mansor (2015) believed that because SHRM practices are often unique and causally ambiguous, they could lead to increased organizational performance and be sources of a sustained competitive advantage.

2.3 Employee Innovation Behavior

Innovation is defined as making changes in an established idea and its consequences, especially by introducing new methods or products (Fatemi, 2021). The concept of innovative behavior has been investigated by many scholars in the last few years in different fields of management, psychology, sociology, and economics (Bammens, 2016; Hapsari et al., 2019; Schaijk, 2018; Waheed, 2017). According to (Agarwal, 2014), employees have been identified as important sources of innovation; consequently, their innovative behaviors are critical to organizational innovation. Furthermore, employee innovative behavior is defined as the ability to generate new ideas and apply these ideas to job-related tasks that benefit the organization's performance (Lei, Haider & Hussain, 2018).

Scholars suggest some antecedents to employee innovative behavior, including organizational culture (Kang et al., 2016), job characteristics (Shin et al., 2017), knowledge management (Lai et al., 2016), leadership style (Pieterse et al., 2010; Shunlong & Weiming, 2012), employee engagement (Hapsari et al., 2019; Waheed et al., 2017) and affective commitment (Hakimian et al., 2016). Besides, Scott and Bruce (1994), employee innovative behavior is a three-step process that begins with identifying a problem and ending with a solution that is either existing, adopted, or completely new. In the second step, the employee seeks internal or external support and sponsorship for their innovative idea. The third stage is implementation, in which employees prototype ideas that can be put into production.

2.4 Competitive Advantage

The concept of competitive advantage has received a lot of attention in recent years, both locally and globally, because it is the essence of an organization's performance. As a result, it has been directed to improve the quality of its services, satisfy the desires of its customers, and progress to gain a competitive advantage (Alheet, Adwan, Areiqat, Zamil & Saleh, 2020). Wang, (2014) defined Competitive advantage as

the strategic advantage one business entity has over its rival entities within its competitive industry. Competitive advantage occurs when an organization acquires or develops an attribute or combination of attributes that allows it to outperform its competitors. These attributes can include access to natural resources, or access to highly trained and skilled personnel human resources.

Nevertheless, A competitive advantage comes from the good performance that the company may develop depending on the use of resources and the potential for developing new skills (Porter, 1985), with which they manage to guarantee its permanence in the middle even though competition also carry out activities to maintain their status in the market (Horta et al., 2015). The success of a company in the process of developing competitive advantage lies not only in generating value through valuable resources that are difficult to imitate and replace but is linked to additional work carried out by the company to make the competitive advantages become sustainable over time (Alegre, 2013). A competitive advantage is sustainable if the company manages to keep developments provided, they comply with the condition inimitable and irreplaceable, Authors supported the fact that innovation as a source for sustaining competitive advantage for companies working in function to integrate something new that no longer used by the competition (Gálvez & García, 2012).

Research Hypothesis, Data Collection and Sample Selection

3.1 Research Hypotheses

Hypothesis 1: Knowledge management processes have a positive significant impact on organization competitive advantage.

Hypothesis 2: Strategic human resources management has a positive significant impact on organization competitive advantage.

Hypothesis 3: The impact of Knowledge management processes on organization competitive advantage will be stronger when innovation behavior is a moderator variable.

Hypothesis 4: The impact of strategic human resources management on organization competitive advantage will be stronger when innovation behavior is a moderator variable.

Study Sample Size

The research sample includes all employees who are working in the telecommunication sector in Egypt, which includes the three organizations: Vodafone, Orange, and Etisalat.

$$n = z^2 \sigma^2 / (\text{sampling error})^2$$

Where n = sample size

$$z = 2 \text{ for a } 95\% \text{ confidence level}$$

σ^2 = population variance = 0.25 assuming the worst case when the population variance is at its maximum which occurs when the population proportion of variability is equal to 0.5.

If the population proportion is to be estimated within an error of 0.05 at a 95% confidence level, the needed sample size will be:

$$n = 22 (0.25) / (0.05)^2 = 400 \text{ participants.}$$

3.3 Measurement and Scaling of the questionnaire

The concepts measured in this paper are Knowledge Management Processes, Strategic Human Resources Management, and Employees' Innovation Behavior and Competitive Advantage. All the constructs were measured using 5 points Likert Scale ranging from "Strongly Disagree" to "Strongly Agree". (Appendix available from authors).

Knowledge Management processes represent independent first variable: a scale measured by 24 items developed by (Iman, 2018), independent variable will be treated as Sub-dimensions and the questions ranged:

Knowledge Creation (From Q1 to Q6).

Knowledge Dissemination (From Q7 to -Q11).

Knowledge Exchange (From Q12 to Q18).

Knowledge Application (From Q19 to Q24).

Strategic Human Resources Management represent second independent variable: a scale measured by 35 items developed by (KIIRU, 2015), dependent variable will be treated as one dimension and questions ranged:

- Training (From Q25 to Q35).
- Recruitment (From Q36 to Q42).
- Performance Management (From Q43 to Q49).
- Compensation (From Q50 to Q60).

Employees' Innovation Behavior represent moderating variable: a scale measured by 35 items developed by (KIIRU, 2015), dependent variable will be treated as one dimension and questions ranged:

- Training (From Q25 to Q35).
- Recruitment (From Q36 to Q42).
- Performance Management (From Q43 to Q49).
- Compensation (From Q50 to Q60).

Competitive Advantage represent dependent variable: a scale measured by 14 items developed by (Riham, 2008), dependent variable will be treated as one dimension and the ranged questions (From 70 to 84).

Methodology

4.1 Analysis of Constructs Validity and Reliability

The internal consistency coefficient (Cronbach's Alpha) reflects the reliability of a scale. It captures the proportion of total variance that is common to all items that form the scale, which presumably corresponds to the underlying construct being measured, and average inter-item correlation to measure intrinsic validity. Cronbach's Alpha reflects that good reliability of questions as ranged from (0.907 to 0.985) with total reliability of questionnaire was 0.994. In addition, inter-item correlation for all items ranged from (0.607 to 0.695) greater than 0.5 which support the intrinsic validity of the questionnaire.

Table 1: Reliability of questionnaire in each category by using Cronbach's Alpha coefficient

Item	Number of Questions	Reliability measure	Intrinsic validity
Knowledge Creation	6	0.919	0.654
Knowledge Dissemination	5	0.907	0.662
Knowledge Exchange	7	0.937	0.681
Knowledge Application	6	0.927	0.681
Knowledge Management Process	24	0.980	0.673
Training	11	0.952	0.642
Recruitment	7	0.936	0.676
Performance Management	7	0.939	0.687
Compensation	11	0.944	0.607
Human Resources	36	0.985	0.643
Employee Innovation Behavior	9	0.948	0.668
Competitive Advantage	15	0.972	0.695
Total	84	0.994	0.661

Findings

5.1 The Research Model

$$\text{innovation} = \beta_0 + \beta_1 * \text{Knowledge} + \beta_2 * \text{human resources} + \varepsilon$$

$$\text{competitive} = \beta_0 + \beta_1 * \text{Knowledge} + \beta_2 * \text{human resources} + \beta_3 \text{innovation} + \varepsilon$$

Table 2: the relation between knowledge management Process Dimension and its sub-dimensions

		Knowledge Creation	Knowledge Dissemination	Knowledge Exchange	Knowledge Application
Knowledge management processes	Pearson Correlation	.971**	.964**	.979**	.968**
	Sig.	.000	.000	.000	.000
	N	332	332	332	332

From the above table (2), we found that all sub-dimensions have significantly strong positive correlations with Knowledge management process since the p- value is 0.000 which is less than the significance level alpha equals 0.05 and the values of the Pearson correlation coefficient is positive and between 0.7 and 1 which indicates positive strong correlation.

And using the value of the correlation coefficient it is clear that the lowest correlation is Knowledge dissemination (0.964) followed by Knowledge application (0.968) then Knowledge Creation (0.971) and the highest correlation is Knowledge Exchange (0.979) which means that knowledge management process in the private sector is highly determined by it.

Table 3: The relation between the Human Resources Management Dimension and its Sub- Dimensions

		Training	Recruitment	Performance Management	Compensation
Human Resources	Pearson Correlation	.974**	.973**	.973**	.977**
	Sig.	.000	.000	.000	.000
	N	332	332	332	332

From the above table (3), it was found that all sub-dimensions have significantly strong positive correlations with Human Resources Management since the p- value is 0.000 which is less than the significance level alpha equals 0.05 and the values of the Pearson correlation coefficient is positive and between 0.7 and 1 which indicates positive strong correlation.

And using the value of the correlation coefficient it is clear that the lowest correlation is Recruitment and Performance Management (0.973) followed by Training (0.974) and the highest correlation is Compensation (0.977) which means that Human Resources Management in the private sector is highly determined by it.

Table 4: The goodness of fit Indices for the estimated SEM

	Model
Chi-square	1079.344
Degree of freedom	1
Level of significance	0.000
RMSEA	0.0458
NFI	0.930
RFI	0.921
IFI	0.930
TLI	0.924
CFI	0.929

From the above table (4), the researcher concluded that all the goodness of fit measures of the model of private Sector indicates that all indicators at acceptable limits, especially NFI, RFI, IFI, TLI, and CFI is close to one. In addition, the value of RMSEA is less than 0.05. All these measures indicate the goodness of fit of

the structural model. In addition, level of significance of the Chi-square test indicates that the overall model is significant. The fit measures indicate the goodness of fit of the structural model.

Figure 1: Path Analysis

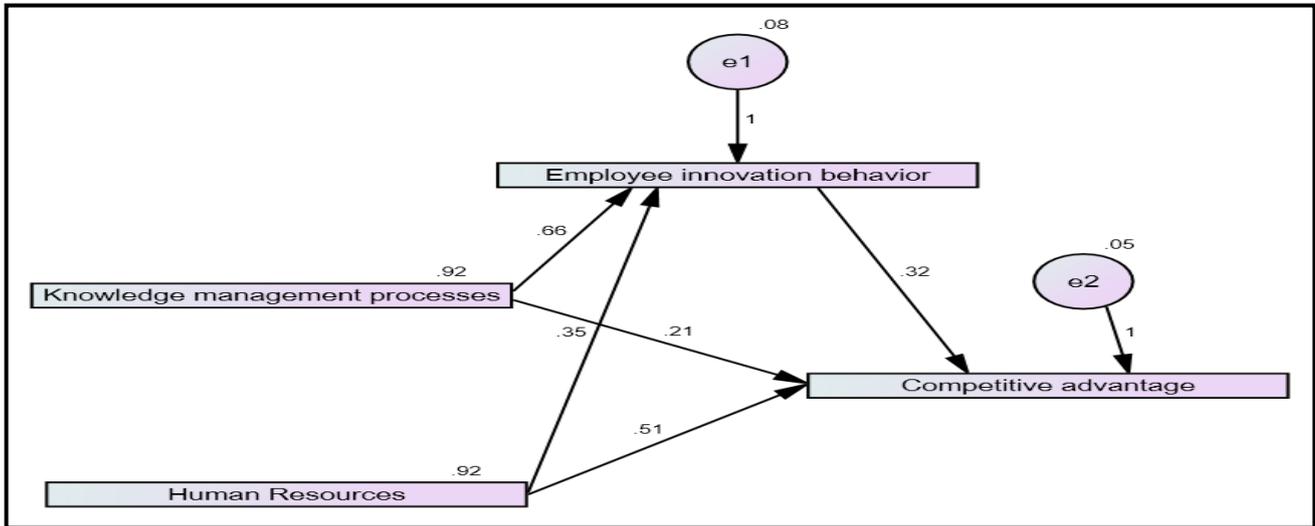


Table 5: Description statistics for Path Analysis

					Estimate	S.E.	C.R.	P
Employee innovation behavior	<---	HR			.347	.016	21.322	***
Employee innovation behavior	<---	Knowledge management processes			.662	.016	40.624	***
Competitive advantage	<---	Employee innovation behavior			.317	.044	7.265	***
Competitive advantage	<---	HR			.506	.020	25.404	***
Competitive advantage	<---	Knowledge management processes			.215	.032	6.776	***

From the above Table (5) and Figure (1), it is deduced that, all paths are significant; we can conclude with confident 95% (as p-value for all coefficients less than 0.05) the following:

There is direct positive effect of Knowledge management process on competitive advantage, with regression coefficient = 0.215, and this support hypothesis 1.

There is direct positive effect of Human Resources Management on Competitive advantage, with regression coefficient = 0.506, and this support hypothesis 2.

The Employee Innovation Behavior mediates the relation between the Knowledge management process and Competitive advantage, this is because there is significant effect of Knowledge management process on Employee innovation behavior also there is a significant effect of Employee innovation behavior on Competitive advantage. The direct effect of knowledge management process = 0.215, while the indirect effect = $0.662 \times 0.317 = 0.209854$, then the total effect = $0.215 + 0.209854 = 0.424854$, which is greater than the direct effect alone and this support hypothesis 3.

The Employee Innovation Behavior mediates the relation between the Human resources management and Competitive advantage, this is because there is significant effect of Human Resources management on Employee innovation behavior also there is a significant effect of Employee innovation behavior on Competitive advantage. The direct effect of Human Resources management = 0.506, while the indirect effect = $0.347 \times 0.317 = 0.109999$ then the total effect = $0.506 + 0.109999 = 0.615999$ which is greater than the direct effect alone and this support hypothesis 4.

Discussion

The results of the paper showed that knowledge management processes have a significant direct positive effect on creating competitive advantage for the organization. This result agrees with the previously discussed research conducted by (Rahimli 2012), previous research on knowledge management shows the impact of knowledge management in the development of organizations, especially its advantage in driving competitiveness. Besides, Understanding the impact of knowledge management processes on creating competitive advantage by using the moderating role of employee innovation behavior. The results of the paper showed that knowledge management has a significant direct positive effect on creating competitive advantage for the organization by using employee innovation behavior as a moderating variable.

Additionally, analyzing the impact of strategic human resources on creating competitive advantage. The results of the paper showed that strategic human resources have a significant direct positive effect on creating competitive advantage for the organization this result agrees with research conducted by (Hamadamin & Atan, 2019). Confirming previous research findings that SHRM supports the processes of knowledge creation, sharing, and use by motivating employees to innovate and share knowledge in ways that contribute to competitive advantage and high performance (Phaik,2010). This was also asserted by (Fndkl ,2015), who stated that there is an important overlapping relationship between SHRM and KM, leading to the creation of competitive advantage; it was also demonstrated throughout the study that there is a significant and positive relationship between SHRM on creating competitive advantage for the organization by using employee innovative behavior as a moderating role of employee innovative behavior.

Finally, by assessing the impact of KMP and SHRM on creating and maintaining competitive advantage, the findings of this study demonstrated evidence that KM and SHRM practices may help organizations improve activities of knowledge sharing among employees, which may be the root of forming new ideas and successfully implementing innovation. Furthermore, the mediating roles of employee innovation behavior in the relationship between KMP and SHRM will have a direct impact on innovation performance by improving employees' behavior towards competitive advantage.

Conclusion

The purpose of this study was to investigate the impact of knowledge management processes and strategic human resources on creating competitive advantage by using the moderating role of employee innovation behavior upon this relationship. The results of this study, which demonstrated the importance of the relationship of these variables, provide an understanding of how strategic human resources implementations and knowledge management combined with employee innovation behavior can significantly contribute to achieving competitive advantage. Achieving competitive advantage needs the support of strategic human resources implementations over the development of employee experience with the basic values of the organization.

Finally, this study provides managers working at the telecommunication companies with fruitful information and data about their employee's behavior, sharing knowledge, human resources practice and how all these factors work together to affect the organization performance and on creating competitive advantage. All the results of this study can be used as a base of information that creates building blocks for managers to enhance and develop employees' innovation, creation, knowledge, and management systems.

Future research

According to previous research, jobs with a certain level of complexity may present some challenges to employees, prompting them to innovate. Meanwhile, jobs with lower complexity are more efficient for employees. Thus, challenging jobs encourage employee innovation at the expense of efficiency. As a result, future research needs to investigate whether employee innovation behavior mediates the relationship between job complexity and performance.

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Analyzing employees' perceptions of using artificial intelligence and gamification in HRM practices on employee's job insecurity

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Keywords

Artificial Intelligence, Employees' Job insecurity, Gamification, HRM practices

Abstract

Research on Artificial Intelligence (AI) and Gamification (GF) continues to expand, and the use of artificial intelligence has sparked discussions on the future direction of human resource management practices. The importance of artificial intelligence (AI) in the field of human resource management has increased as it enables departments to fulfil their duties more effectively. A specific focus on employees' perceptions of using Artificial Intelligence and Gamification in Human Resource Management Practices (HRMP) is still limited. This research aims to reveal the perceptions of HR employees towards artificial intelligence (AI) and Gamification (GF) in managing Human Resource Management Practices (HRMP). In addition, examining the relationship between using Artificial Intelligence and Gamification on Employees' Job Insecurity (JOBINS). This research has used a quantitative approach and data analysis. total of 450 respondents were involved in this research, but only 400 were qualified. the respondents are Human Resource employees in many sectors. Correlation and Regression analysis are used to test the research hypotheses. The results of this research revealed that Using both Artificial Intelligence and Gamification has a significant positive effect on employees' job insecurity. In addition, the use of Artificial Intelligence (AI) in the training and development process could help employees reduce the stress and time they spend on searching for and finding the right candidate. It could also help them improve the efficiency of their work by allowing them to focus on the training and not on the monotonous tasks. Moreover, using Gamification (GF) in managing Human Resource Management Practices (HRMP) could increase the employees' motivation and Engagement. The contribution of this research to the literature is examining the gap between employees' perceptions towards Artificial Intelligence (AI) and Gamification (GF) in managing Human Resource Management Practices (HRMP) and the impact on employees' Job insecurity (JOBINS). This research provides a comprehensive analysis of the perceptions of employees about the use of artificial intelligence and gamification in HR departments. It also provides valuable insight into the potential of this technology in improving the efficiency of organizations. Further research is also needed to determine if the findings from this research could be applied to all employees inside the organization not only the employees who are working in HR department. In addition, it would be beneficial to conduct further studies on how to develop effective training and briefing materials for use of Artificial Intelligence in recruitment systems.

1. Introduction

The organization's most valuable resource is its workforce. Managing employees, their productivity, efficiency, and compliance is an increasingly difficult challenge for human resources. Organizations are looking to AI and gamification to address this issue. By incorporating Artificial Intelligence into the Human Resources department, which must strike a balance between employees and managers, will find its job easier. As the subsequent step, human resources have begun to digitalize and integrate Artificial Intelligence technologies. (Agarwal,2022) emphasized that it is appropriate to implement Artificial Intelligence technology in the human resources sector because recruiters are unable to make highly precise applicant selection decisions.

Even if extremely competent individuals are identified using AI technology, employees who do not feel a part of the organization may experience challenges such as a drop in performance, discontent with their jobs, and a loss of confidence. Unsuccessful implementation of training and development programs may be one of the most important factors contributing to these problems. According to research conducted by Burg (2015), the use of artificial intelligence in training and development enabled the delivery of training

that was rapid, effective, and practically error-free. When the old method is used to evaluate the performance of newly hired staff, managers and employees spend a significant amount of time at work. Moreover, (Bersin,2018) emphasized the significance of AI in human resource management (HRM) and forecasted that this rate will increase in the future. Furthermore, (Tambe et al.,2019) underlined that the proportion of employees that are AI-ready will increase in the future.

Technological advances are altering the boundaries between the labor duties performed by humans and those carried out by computers and algorithms. Artificial Intelligence is a word used to describe a variety of technologies and purposes, but it primarily refers to the capacity of a computer system to accomplish tasks that ordinarily require human intelligence (Brennen et al., 2018). Human resource management is influenced by technology, which has shifted from static business resource systems to advanced artificial intelligence (AI) software that performs activities previously performed by humans. A recent global poll reveals that AI and data analysis are two of the four most significant trends influencing the Human resource practices.

Moreover, Artificial Intelligence is predicted to have a significant impact on HR practices, which are closely tied to the human component in most firms. When AI is used in the HR department, employees may see it as a danger, fearing that Artificial Intelligence would eventually replace them and cause them to lose their employment.

Artificial intelligence can be trained in a controlled environment using precise and coherent datasets to achieve HRM goals (Kambur, Akar, 2021). Employees should be made aware of the Artificial Intelligence training that will be employed in HR. Inappropriate training may prevent employees from taking full use of new technology. HR's practices may be harmed as a result. Human resource managers' perceptions of risk are reflected in the technology risks connected with the Artificial Intelligence integrated business analytics solution they are considering. One of the most difficult problems to overcome is the issue of risk. It's possible that AI-powered solutions could harm HR if they are not properly secured. Adapting to an artificial intelligence integrated solution may appear to be a daunting task for HR professionals. Risks may arise because of this view (Coupe,2019). The risk perception can be enhanced by HR's impression of uncertainty. As a result of this uncertainty, it may be difficult to predict the future. Working in an environment where people feel trusted is critical. Bias and privacy concerns might arise when people lack confidence in the source of their data. AI, on the other hand, is fundamentally different from humans. A lack of trust can lead to a negative outcome if these perceptions are held. (Kambur & Akar, 2021)

Gamification is the usage of games and game-related components outside of the typical playground for a serious purpose within enterprises or training institutions (Gimson, 2012; Brownhill, 2013) with the goal of making ordinary tasks more appealing and enjoyable (Sarangi & Shan, 2015). Gamification has arisen as a trend in the business and marketing sectors in recent years, capturing the interest of academics, educators, and practitioners. Gamification, according to researchers and practitioners, can be utilized in any process that involves employees. Gamification is more than just playing games. Thus, according to (Kim ,2021), games create an imagined world that is distinct from reality, yet gamification augments reality with game aspects. Elements of a game that go beyond the typical game format drive players to act and have fun, increasing participant engagement and motivation (Kapp, 2012). From the standpoint of an employer, (Mollick and Rothbard,2014) see gamification as a tool for engaging employees in some type of competition and thereby contributing to the attainment of organizational goals.

Furthermore, incorporating gamification into human resource practices enables HR practitioners to promote employee engagement by motivating them to learn the company's management tools, enhance their expertise, and enhance their performance effectively and efficiently. How employees perform on assigned jobs may be evaluated and ways to improve their performance on further duties can be framed easily after implementation. Gamification can be used at any phase in the human resource process, from enticing new employees to retaining those who have been with the company for a while. The recent Improvement in Machine learning and artificial intelligence indicates the real danger of jobs. In response to these concerns, several experts have proposed new policies aimed at reducing employees' apprehension of technology (Mullins & Sabherwal,2018). Others have stated that certain skills, such as interpersonal communication and creativity, are likely to remain inferior to humans for quite some time. As a result, jobs that need these talents are likely to be more resistant to automation. (A (Presbitero, Teng-Calleja,2022)

claimed about which skills and jobs are resistant to automation are frequently based on theoretical and intuitive reasoning; this research examining whether respondents are concerned about being replaced by Artificial Intelligence and more likely to believe their jobs will still exist in the same way they expect (Coupe,2019). Furthermore, this research investigates whether respondents are fearful about other sources of job insecurity due to using technology in their jobs. Accordingly, the research is conducted to examine the perceptions of Human Resource employees about using technology in managing human resource management practices. as they are suddenly had to switch to the radical increase in using artificial intelligence and its application in their everyday functions. Also, it will provide a road map or set of suggestions regarding the relationship between artificial intelligence, gamification, Human Resource practices and the job insecurity of employees. Artificial intelligence and its use in HRM practices will be more effective if we can gain a better understanding of how employees perceive the use of artificial intelligence and its applications in the workplace and to what extent they feel secure and safe, despite the widespread adoption of technology and artificial intelligence in all fields.

Despite the importance of Artificial Intelligence, research on its effects on employee perceptions has been limited. This research aims to identify the employees' perceptions towards using Artificial Intelligence and Gamification in managing Human Resource Management Practices and its impact on their job insecurity.

2. Literature Review

2.1 Artificial Intelligence in Human Resource Management Practices (HRMP)

Artificial Intelligence refers to systems that can think and act like humans (Russel ,Norwig, 2010; Haenlein and Kaplan, 2019). Artificial Intellect reveals certain characteristics of human intelligence to computer technology. Philosophy, psychology, biology, mathematics, the fine arts, and language could all benefit from the application of this technology. Because Artificial Intelligence is always evolving, it has a wide range of applications. People will be able to live more comfortably thanks to this new technology, which aims to improve their quality of life, raise their living standards, and open new vistas for humanity. It has the power to address complex challenges quickly and permanently. Unless systems and programs are changed, information and data cannot be lost with AI technology Information and data entered Artificial Intelligence systems can be easily replicated and distributed to a wide audience over the internet (Bhardwaj, Singh, Kumar , 2020). In addition, Artificial Intelligence does not display the same kinds of erratic behavior as human beings. In general, it exhibits a predictable pattern of activity. (Bader and Kaiser,2019) argued that algorithms and Artificial Intelligence result in more accurate outcomes when it comes to decision making and this is because they can express judgments more quickly and much accurately than human based on experience and intuition. It begins by collecting information regarding the topic, events, and methods, then assesses the outcomes before proceeding with its operations. In addition, (Xuanbei, 2021) argued the importance of utilizing artificial intelligence to human resource management practices is enhancing recruitment precision. Recruiting the necessary individuals for an organization is the first step in the process of human resource management, as well as a crucial and essential aspect of this process. It is directly related to the enterprise's future development pattern and direction. However, traditional recruitment situations provide the following challenges. First, there are limited outlets for recruitment.

Companies are unable to quickly acquire individuals who fulfil corporate criteria. This renders it impossible for employees to arrive within the allotted time, thereby extending the recruitment process, increasing time-related expenses, and decreasing the company's profits. The second is that it is tough to screen resumes with human resources. It is challenging to select the best-matched resume in a short period of time when staffing is restricted. Thirdly, inadequate HR resources make it impossible to screen resumes and conduct interviews simultaneously (Tambe, Cappelli, and Yakubovich,2019). Moreover, (Rezzani, Caputo, and Cortese, 2021) indicated that the use of artificial intelligence has enhanced the effectiveness of training. Regular education and training of personnel is a necessary and foundation for the sustainable development of every enterprise, as well as the primary method of investing in human capital to achieve the added value of human capital. However, many businesses lack skilled training instructors and scientific training procedures, resulting in ineffective training. The disparate quality of training institutions will

reduce the quality of training if it is outsourced. Because the training institution is unfamiliar with the enterprise's circumstances, it cannot provide customized training. The use of big data and artificial intelligence will significantly enhance the effectiveness of training. In addition to improving the standardization of performance management, the application of artificial intelligence to human resource management has the additional benefit of enhancing the standardization of performance management.

Currently, the majority of businesses practice performance management, but they lack the enhancement of human performance and contribute to the burden of human resource management. artificial intelligence can acquire user information to develop their own database, making performance evaluation indicators more data-based and compatible with actual situations. Furthermore, (Gaol, 2021) asserted that the artificial intelligence can be employed in Performance management in gathering data on workers and linked organizations from their input and build strong infrastructure, artificial intelligence also aids in this process by establishing and maintaining standardized tables and performance reports. Previous study revealed that using artificial intelligence tools that enable HR professionals in evaluating possible candidates for a certain position. This might begin with the application screening and continue through post-placement evaluations. artificial intelligence assists in assessing applicant profiles to determine if they possess the requisite skill set. It also facilitates contact by sending emails or messages to candidates automatically. Also, artificial intelligence develops a comprehensive set of tasks and incentives for the employees that enter the business.

Thus, prospective employees can be selected in a much more expedient manner using artificial intelligence assisted hiring tools. (Vaishnavi, Achwani, 2018.) previous research looked at the benefits of enhancing the employee engagement level that could be achieved to any organization. Through the review of artificial intelligence literature review revealed that artificial intelligence capable of handling the different manual sorting and organization duties that Human Resource workers face daily. Reports for everyday duties can be compiled by artificial intelligence and sent to professionals on the move at a predetermined time when they are in the office. Additionally, For the growth of the personnel and the organization, it is essential to conduct effective training programs. Using artificial intelligence input, training programs for new staff can be redesigned. By utilizing a predictive analytic model, artificial intelligence is able to combine interpretations of psychology and skill areas to develop an effective and individualized training package for employees. In addition, natural language processing tools can enhance training sessions provided by firms employing cost-effective ways.

2.2 Benefits of Artificial intelligence

The rise of digital technologies has created new ways for people to apply for and hire jobs. Companies are now more likely to hire qualified individuals through social media and online recruitment. Using Artificial Intelligence has gained growing attention in a number of areas, including Recruitment, Training, appraisal and rewarding employees.

The traditional Human Resource Management Practices (HRMP) process is more of a speculative analysis than a scientific procedure when it comes to selecting candidates for most positions. Due to the limited number of HR personnel and the numerous applicants that come through the traditional HRMP, the selection process for most positions is more of a qualitative and quantitative analysis. With the help of Artificial Intelligence technology, organizations can now implement a salary forecast model to help predict the salary of their employees (Gong, Y., Zhao, M., Wang, Q. and Lv, Z., 2022) According to (Howard, 2019; Mahmoud et al., 2019), high levels of employee participation, on-the-job effectiveness, and productivity are important factors that an organization can use to measure its performance. Unfortunately, these are typically not easy to assess from the company's perspective using traditional metrics. With the help of AI, HR administrators can now make better decisions when it comes to assessing the performance of their employees. Moreover, the ability to improve the efficiency of performance appraisal by specifying the appropriate rewards can help motivate employees and improve their performance. For managers, Artificial Intelligence can help them make better decisions by providing them with more accurate data (Reilly, 2018). For instance, instead of only matching targets at the beginning and end of a given season, Artificial Intelligence can continuously monitor and analyze the data to make the decisions that are required. According to (Semmler & Rose, 2017). Artificial Intelligence could help organizations query their pay and compensation data more effectively and improve the perception of their equity. This could also help boost

the performance of their organizations. In the area of training and development Getting the most out of your training is very important to keep up with the latest technological developments. (Tambe et al., 2019) asserted that AI can help in this regard by providing various tasks and services, such as organizing virtual training courses and managing the various tasks related to them. In addition, it can help employees tailor their training according to their individual needs. It is important that employees are equipped with the necessary tools and resources to maximize their professional development.

One of the most effective ways to do this is by using employee databases, which can provide relevant information about their specific expertise. Through the use of AI, organizations can improve their talent retention by monitoring the impact of training on an individual's performance. This can also help them identify areas of their operations where they can improve their efficiency. In addition, by analyzing data collected from various sources, such as employee traits and performance, AI can help them make informed decisions regarding their employees (Wright & Schultz, 2018).

Through the use of AI, data processing muscle can be acquired through the massive amounts of data collected by big data (Lengnick-Hall, Neely, and Stone, 2018). This process can then be used to improve the efficiency of various managerial tasks. In addition to improving performance, this process can also help in more fitting professional development opportunities for individuals (Margherita, 2021). The increasing power of Artificial Intelligence would require an increase in the capabilities of HR staff to interpret and query its applications. This is because there is a shortage of skilled individuals with the necessary skills to handle the various tasks and workflows associated with its implementation.

2.3 Gamification in Human Resource Management Practices (HRMP)

Gamification is a process that involves the design of game features for non-game contexts. It can be applied to various non-game areas such as business. According to (Deterding et al., 2011) it is the application of game design principles to non-game environments, (Marczewski, 2017) noted that this type of concept can be used to describe the use of game elements in various contexts. Gamification is a concept that refers to the use of various elements and techniques in games to encourage people to solve problems. These include the design techniques, mechanics, and style of the games. Besides being used in games, gamification also refers to the elements that are related to the interaction and reward of the players. Although the term is not synonymous with the use of games, it is still used to describe the multiple elements and mechanics of games. Gamification is a process that involves the use of various game-related components and games outside of the traditional playground to improve the appearance and comfort of everyday tasks. This is usually done in training institutions. Due to the increasing popularity of gamification in the marketing and business sectors, it has gained the attention of academics and practitioners. According to experts, it can be used in various processes, such as employee training. (Ērgle, and Ludviga, 2018) The rise of gamification in various non-gaming domains has attracted the attention of researchers and practitioners (Kupper et al., 2021). The potential of gamification to enhance the quality of life is due to its ability to provide users with engaging and enjoyable experiences while also enabling them to achieve a targeted outcome (Murawski, 2020). The rise of gamification has gained widespread attention in various areas, such as education, employment, and online communities. Some of the major organizations that have used it include Google and L'Oréal (Buil, I., Catalán, S., & Martínez, E. (2020). These companies are also known to use gamified tools for recruiting.

Gamification can help add a bit of fun to everyday tasks, which otherwise can be quite boring. Researchers and practitioners believe that it can be used in various processes, such as employee training. (Callan et al., 2015). According to (Meister, 2015) gamification can be used in various processes, such as recruitment and training. It can help increase employee engagement and motivate them through the experience of competition. Also noted that it can help improve the motivation of employees by increasing their inner motivation. (Hughes, A., & McCoy, K., 2015). noted that playing games can help employees improve their behavior. It can allow them to see their organization from a different perspective. This concept is built on the idea that a game system should have a purpose and should combine the hedonic and utilitarian attributes to support behavioral and productivity change. Although Gamification has been around for a long time, the theoretical framework for analyzing and defining gamification is not yet clear. According to (Cardador et al., 2017) gamification can be used to create game elements and behaviors that

are designed to motivate and inspire employees. Due to the increasing popularity of gamification in the digital age, it is becoming more prevalent in the field of Human Resource Management. While it was previously used in a non-digital platform, it is now being used in a digital context. (Kurter, 2018) asserted that with the increasing popularity of gamification in the workplace, many organizations are now using it to engage their employees in their learning and development. The goal-oriented culture of many organizations encourages employees to develop their skills and talents in order to compete against their peers. This is also reflected in the perception of achievement. There is only one recruiter company applying gamification in recruitment processes in Egypt (Hire Hunt). Also, (The Egyptian Gazette) applying gamification in training by using game-like structures and features to improve the quality of training. This can be done through the addition of various features such as puzzles and simulations. to motivate and retain the employees. Consequently, using gamification in human resource management helps employees become more engaged in their work by rewarding them for doing so. It also helps them retain the knowledge they're learning. It can also help them improve their productivity and develop their skills. Employees who are given the opportunity to improve their skills are more productive and happier. Gamification can also be used to improve the skills and performance of your employees. It can be beneficial to both the individual and the company. It can help them develop a better understanding of their work and improve their efficiency.

2.4 Characteristics of Gamification in Human Resource Management Practices (HRMP)

Gamification is a process that involves the use of game components that can be categorized as reward systems. These include levels, achievements, and participation points. Shah and Sarangi (2015) indicated that the link between employee engagement and gamification is still in its early stages. the main reason for the popularity of this concept is that it allows workers to have fun while they are at work. in addition (Mollick, and Rothbard ,2013) noted that incorporating games into the work environment could make it more fun and These include points that reflect the status of the employees, challenges that encourage the achievement of goals, and levels that provide a sense of accomplishment. They also suggest that employees can customize their virtual goods to feel valued and included in the company's culture. Competing against other employees and promoting healthy intra-team comparisons are also some of the features of gamification. Although the positive effects of gamification on employee performance are widely acknowledged, there are still many challenges that can be encountered when implementing it in an HR system. There are a variety of studies and articles that provide a comprehensive overview of these issues (Souza et al. 2020) Although the HR practitioners have been acknowledged for their efforts in developing and implementing gamified HRM systems, they have not been able to provide a comprehensive view of the challenges they face when it comes to engaging their employees. In line with (Maltseva,2019) there are a lot of studies that focus on the factors that influence the motivation of employees to use gamification. Although it is important to note that the success of a game depends on the players' motivation, it is also important to consider the various factors that influence its acceptance in the workplace. This research aims to provide a comprehensive view of how employees perceive the concept of gamification when it comes to implement it in their workplace.

(Werbach & Hunter ,2012) defined the phases of a good gamification implementation. Defining the goal of a business should be clearly communicated in a way that makes it easy for the readers to understand. This can be done by having the objectives listed in a prioritized order, Delineating the desirable behaviors that the users should expect from the system or game. This can be done by having a clear and consistent explanation of the reasons for gamification, Describing The goal of this exercise is to help players understand the relationship they'll have with the game. This can be done by talking about the things that will motivate them, devising cycles is to encourage the players to continue participating and overcoming the various challenges that they might face. In addition, (Nenadić,2019) claimed that the usual feedback, such as how they can improve their motivation, the developers should also consider developing a variety of feedback options that will allow gamers to engage with the activities. Besides the usual feedback, such as how they can improve their motivation, the developers should also consider developing a variety of feedback options that will allow gamers to engage with the activities. The increasing popularity of game elements in non-gaming domains such as education, healthcare, and work has attracted the attention of

researchers and practitioners. This is because their potential to provide users with engaging and enjoyable experiences is also beneficial for efficiency. Gamification also enables users to achieve a targeted outcome with high level of efficiency (Walls,2021). This concept can be used to support the development of effective and efficient work processes. They should also make sure that the proposed gamification solution has the necessary tools to implement it. Gamification should be fun, and it should involve the users willingly participating in the game. Also, it should be done in a way that makes it easy for them to manage and improve the game. To ensure that the project is carried out correctly, it should be equipped with the necessary tools and resources.

2.5 The Relationship between Artificial Intelligence, Gamification and Job insecurity

Artificial intelligence is a technology that enables computers to perform various tasks and functions based on their intelligence. It has gained widespread use in various service sectors due to its ability to improve efficiency. Through the use of algorithms, it can solve human-related problems by analyzing the data collected by the system. It can also provide businesses with unique experiences by analyzing and remembering the preferences and needs of their customers. This technology can also help them improve their customer experience by allowing them to perform various tasks and functions without the need for human interaction. (Koo, Curtis, and Ryan,2021)

Although gamified systems are not always effective, they can still stimulate and reinforce a user's behavioral disposition by incorporating elements that can help them improve their performance. For instance, by incorporating a hall of fame or a leaderboard, game designers can help users reach their goals and improve their overall experience. Although implementing an HR system is a strategic step in attaining the best possible creative outcomes, the gamification of the system has been regarded as a promising innovation.

The potential of an HR system to become an integral part of an organization's strategy is immense. It can help an employee develop a deeper understanding of the organization and its culture. However, there are still many studies that are focused on the various aspects of gamification in an HR system. (Ikhide, Timur, and Ogunmokun, 2022)

Due to the increasing use of Artificial intelligence in all fields, experts and researchers have been warning about the potential negative effects it could have on both the employees and customers (Huang and Rust, 2018). According to (Li et al. 2019), employees' awareness of the potential impact of artificial intelligence and robotic systems on their jobs is significantly influenced by their turnover intention. For instance, in lower-skilled positions, employees are more likely to be affected by the changes brought about by artificial intelligence. The increasing number of jobs that are automated and the concerns about the potential impact of Artificial intelligence on the workforce are likely to trigger a rise in employee anxiety. This is because job insecurity is the main stressor for people who are currently experiencing this environmental change. Besides the number of positions that are available, other factors such as the duration of the position and the salary are also taken into account to determine the stress level of an individual. (Nam, 2019). Being able to manage the perceived job insecurity of employees is very important to ensure that they are able to anticipate their own affective and attitudinal reactions. This can help prevent them from reacting negatively to the organization's actions. According to study conducted by (Schaufeli and Bakker,2004) employees who are engaged in their work are more likely to provide their customers with excellent service and stay in the organization. This suggests that having a high level of work engagement can help employees develop a positive attitude and improve their performance. Consequently, employees who are experiencing job insecurity can't fully engage in their work due to their negative emotions. This is because they are constantly focused on their performance and are prone to experiencing negative reactions. Having a high level of work engagement is also very important to ensure that employees are able to maintain their turnover intentions.

In line with (Presbitero, and Teng-Calleja, 2022) The perception that Artificial Intelligence is taking over jobs is related to the behavior of people who are engaged in career exploration. this research explores the role of job insecurity in the development of the AI's perception of taking over jobs. Job insecurity is a type of experience that people have that involves uncertainty about their future job. We believe that experiencing this negative and subjective perception of one's job can provide a reasonable explanation for the AI's

perception of taking over jobs. The perception that artificial intelligence is more efficient at handling certain tasks can trigger a feeling of insecurity among workers. According to (Rosenblatt and Greenhalgh, 1984), job insecurity can be caused by the perceived threat level. This concept suggests that the higher the threat level, the more insecure the job gets. We believe that this is because the more likely it is that AI will take over jobs, the more insecure the employees are. (Presbitero, and Teng-Calleja, 2022.) asserted that job insecurity mediates the relationship between the perception of AI taking over jobs and career exploration behavior. Job insecurity can also affect an employee's search for other opportunities that are more secure and competent. For instance, it can make an individual feel like they can secure a better job in a company that values their capabilities.

In addition to use Artificial Intelligence to improve employee performance, implementing HR gamification can also help improve not only employee performance but also employees' job satisfaction. (Kim, S., 2021) argued that Gamification can also help employees develop their self-esteem and confidence, which are factors that can directly affect job satisfaction. It can also help them interact with others and improve their performance.

The literature review also found that there are various limitations when it comes to the research on the use of artificial intelligence in different sectors not only in HR management practices. More studies are needed to investigate the role of Artificial Intelligence in different cultural contexts and sectors. In addition, few studies have addressed the current employees' perspective on using AI and gamification.

Due to the rapid emergence and evolution of Artificial Intelligence related technologies has highlighted the increasing number of job insecurity among employees. This could be caused by the potential loss of a human's job, as this could affect their attitude toward their work and their willingness to leave. On the other hand, it is also uncertain whether Artificial Intelligence can help improve the service quality or lead to job loss.

Based on the above discussion, the following hypotheses were formulated:

H1: Employees' Perceptions of using AI and Gamification in HRMP positively influence Employees' job insecurity.

H1.a: Employees' Perceptions of using Artificial Intelligence in HRMP positively influence Employees' job insecurity.

H1.b: Employees' Perceptions of using Gamification in HRMP positively influence Employees' job insecurity.

3. Methodology

3.1 Description of Sample

This research aims to examine Employees' perceptions of using Artificial Intelligence and Gamification in human resource management practices on Employees' job insecurity. The research was conducted on (400) Egyptian Human Resource employees in different sectors (Banking, Telecommunication, Education, Retail, Pharmaceutical, IT, Healthcare, Tourism) and located in the Greater Cairo region. They were selected using the non-probability judgmental sampling method; The only inclusion requirement was that responders had to be Egyptian employees.

3.2 Measurements

The researcher used quantitative data collected from the survey were then used to test the objective of the study. The results of the study were then analyzed to determine the effects of using Gamification and Artificial Intelligence in Human Resource Management Practices on employee job insecurity. The data collected was gathered through a structured questionnaire that was composed of four sections. The first section covers the respondents' demographic information, while the second and third sections cover the research independent variables, which are Artificial Intelligence and Gamification in HR management. while the fourth section covers the independent variable "employees' job insecurity, each of the questions had its own score, ranging from 1-5 (1-Strongly disagree, 2- disagree, 3-Neutral, 4- Agree, 5-Strongly agree). The Artificial Intelligence was adapted from the study of (Kambur, and Akar, 2021) who developed 13 items scale. While Gamification scale was Through an online questionnaire, participants were asked to evaluate

various statements using a 5-point Likert scale adapted from (Saunders ,2017). and Job insecurity was measured using the scale developed by (Hellgren and Sverke,2003).

3.3 Data analysis

The Statistical Analysis Software SPSS V26 and AMOS V24 were used to manage and simplify data in order to analyze the data collected to achieve the research objective. To measure the independent variable's effect on the dependent variable, the Multiple Linear Regression Model was used to examine the extent to which the independent variable influences the dependent variable. Discriminant validity, Average Variance Extracted (AVE) , Composite Reliability (CR) and Maximum Shared Values were used to test research hypotheses. Moreover, Descriptive statistics, rotated factor loadings and explained variance values were used

4. Findings/ Results

Table 1. Rotated factor loadings and explained variance values

Items	Item code	PAIHRM	PGAHRM	JOBIN	Explained variance
AI1	B1	0.559			28.40 %
AI2	B2	0.497			
AI3	B3	0.496			
AI4	B4	0.531			
AI5	B5	0.612			
AI6	B6	0.490			
AI7	B7	0.522			
AI8	B8	0.525			
AI9	B9	0.546			
AI10	B10	0.549			
AI11	B11	0.530			
AI12	B12	0.543			
AI13	B13	0.517			
GF1	C1		0.559		31.981 %
GF2	C2		0.454		
GF3	C3		0.479		
GF4	C4		0.670		
GF5	C5		0.534		
GF6	C6		0.625		
GF7	C7		0.606		
JOBINS1	D1			0.577	36.554 %
JOBINS2	D2			0.626	
JOBINS3	D3			0.653	
JOBINS4	D4			0.591	
JOBINS5	D5			0.572	
Total variance explained					96.935%

As seen in Table (1), factor loadings vary between 0.454 and 0.670. These results show that the factor loadings exceed the minimum limit values. Factor loadings of Perceptions of using Artificial Intelligence in Human Resource Management (PAIHRM) vary between 0.490 and 0.612 while factor loadings of Perceptions of using Gamification in Human Resource Management (PGFHRM) is 0.454 and 0.670. Factor loadings of Job insecurity (JOBINS) is 0.572 and 0.653. moreover, as seen in Table (1), the total variance amount explained by 25 items and four factors is 96.935%. The PAIHRM, PGFHRM and JOBINS account for 28.40%, 31.981% and 36.554% of the total variance, respectively. These results show that the 25 items and 3 factors version of the scale has construct validity.

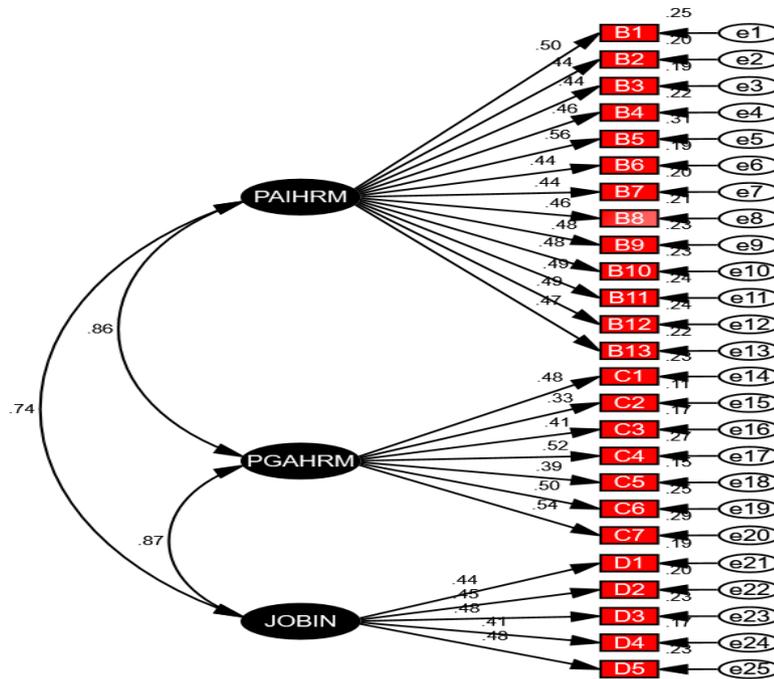


Figure 1. First-order CFA model and standardized factor loadings

The manifest indicators were subjected CFA and also measured the model fit. There were three main factors, then employed the model included PAIHRM, PGFHRM, and JOBINS as shown in Figure 1. The results of the CFA show that the variables of PAIHRM can be measured from Thirteen observed variables with standardized loadings: $\lambda = 0.50, 0.44, 0.44, 0.47, 0.56, 0.44, 0.44, 0.46, 0.48, 0.48, 0.49, 0.49$ and 0.47 , respectively. PGFHRM can be measured from six observed variables with standardized loadings: $\lambda = 0.48, 0.33, 0.41, 0.52, 0.39, 0.50$ and 0.54 , respectively. JOBINS can be measured from five observed variables with standardized loadings: $\lambda = 0.44, 0.48, 0.48, 0.41$ and 0.48 , respectively.

Table 2. Convergent and discriminant validity results

	CR	AVE	MSV	MaxR(H)	PAIHRM	PGAHRM	JOBIN
PAIHRM	0.923	0.502	0.468	0.927	0.708		
PGAHRM	0.862	0.513	0.468	0.869	0.684	0.716	
JOBIN	0.850	0.536	0.362	0.868	0.379	0.602	0.732

According to criterion proposed the average variance extracted (AVE) values should be > 0.50 , composite reliability (CR) values should be > 0.70 , the CR values should be greater than the AVE values, maximum shared values (MSV). Additionally, square root of the AVE should be higher than the correlation values between constructs. The values obtained for CSR and AVE are shown in Table 1. According to the table, AVE values varied between 0.502 and 0.536 while CR values were between 0.85 and 0.92. CR values were greater than AVE values. MSV values ranged from 0.362 to 0.468 and square root of the AVE should be higher than the correlation values between constructs. Based on these results, it could be concluded that the scale of PAIHRM has discriminant validity.

Table 3. Cronbach's alpha results

Scale dimensions	Number of items	Cronbach's Alpha	Interpretation
PAIHRM	13	0.923641	Accepted
PGAHRM	7	0.871362	Accepted
JOBIN	5	0.844707	Accepted

The measurement of the reliability of a data instrument helps the researcher to scale the goodness of the variable of the measurement. The widely used Cronbach coefficient alpha was employed to assess internal consistency the value of Cronbach's alpha should be 0.70 or higher. The entire alpha coefficient ranged from 0.84 to 0.92 as shown in the Table 2. Based on the coefficient values the items tested were deemed reliable for this study.

Table 4. Model fit summary

Measure	Model fit	Reference index	Interpretation
χ^2/DF	1.530	Between 1 and 3	Excellent
CFI	0.906	> 0.90	Acceptable
RMSEA	0.036	< 0.05	Excellent

These indexes included the ratio of model chi-square to the degrees of freedom (χ^2/DF), the Root Mean Square Error of Approximation (RMSEA) and the Comparative Fit index (CFI). To obtain acceptable model fit, Chi-square / df should be between 1 and 3, CFI should be greater than 0.90, RMSEA should be less than 0.08. Table 3 showed the fit indices of the first-order CFA. Fit indices obtained from ML method were calculated as $\chi^2/DF = 1.530$, CFI = 0.906 and RMSEA = 0.036. Based on these results, it could be said that the model has a good fit.

Table 5. Demographic Table for Participants

Items		Percentage	Mean	SD
Gender	Male	63.0 %	1.42	0.494
	Female	37.0 %		
Age	20-29	39.9 %	2.6	1.294
	30-40	12.7 %		
	41-50	43.4 %		
	51-60	3.5 %		
	Above 60	0.6 %		
Years in Business Life	0-5 year(s)	59.0 %	2.49	1.475
	6-10 years	11.0 %		
	11-15 years	8.1 %		
	16-20 years	11.6 %		
	21 years and above	10.4 %		
Usage of AI and Gamification	Yes	41.0 %	1.93	0.816
	No	37.6 %		
	I don't know	21.4 %		
AI	I have no knowledge	5.8 %	2.93	1.253
	Little	23.7 %		
	Average	44.5 %		
	Much	19.1 %		
	Very much	6.9 %		
Gamification	I have no knowledge	38.2 %	2.68	1.378
	Little	27.2 %		
	Average	26.0 %		
	Much	7.5 %		
	Very much	1.2 %		

Table 4 showed the respondents' demographic details for the survey conducted. The sample undertaken comprises 400 people. Based on gender, 63% of the samples are males and 37% females. The age of the employees distributed over the age groups 20 - 29 years (39.9 %), 30 - 40 years (12.7%), 41-50 years (43.4

%), 51–60 years (3.5%) and > 60 years (0.6%). The years of business life distributed over the groups 0 – 5 years (59%), 6 – 10 years (11%), 11 – 15 years (8.1%), 16 – 20 years (11.6%) and 21 years and above (10.4%). Based on Usage, 41% of the samples used the AI and Gamification, 37.6% don't used the AI and Gamification and 21.4% don't know about this.

Table 6. Descriptive statistics

	Mean	Median	Std. Deviation	Skewness	Kurtosis
PAIHRM	1.9956	2.0000	0.61481	0.735	0.956
PGFHRM	2.1932	2.0000	0.64732	0.081	-0.266
JOBINS	2.2832	2.2000	0.77999	0.668	0.563

The descriptive statistics represented by Table 5. The PAIHRM has a smaller standard deviation than PGFHRM and JOBINS variables where its value has reached 0.61481 but the JOBINS has a largest standard deviation where its value has reached 0.77999. Skewness and kurtosis test values show that none of the variables is symmetric but values of the whole scale and each dimension varied between -1 and 1, it could be said that normal distribution was provided.

Table 7. Multiple Linear Regression Model

Model	Unstandardized Coefficients		Standardized Coefficients	t		F	
	B	Std. Error	Beta	Value	Sig.	Value	Sig.
(Constant)	.882	.138		6.367	.000	91.612	0.000
PAIHRM	.301	.059	.266	5.070	.000		
PGFHRM	.393	.058	.358	6.808	.000		

a. Dependent Variable: job insecurity.

Table 6 showed the results of *T*-Test there is a statistically significant relationship between the independent variables "PAIHRM, "PGAHRM" and the dependent variable "JOBINS" (P-value < 0.05). The value of the estimated regression coefficient is 0.301 and 0.393 respectively, indicating that the two variables are positively related with JOBINS and the results indicate that the overall regression model is significant ($F = 91.612$, P-value < 0.05).

5. Discussions and Conclusions

The objective of this research was to analyze the employees' perceptions of using Artificial Intelligence and Gamification in Human Resource Management Practices and how affect their job insecurity and the results revealed that there is strong positive significant relationship between Using both Artificial Intelligence and Gamification on employees' job insecurity. Besides, it was found that using Artificial Intelligence and Gamification has a significant impact in managing Human Resource Management Practices.

This finding is in line with Kambur and Akar (2021) who revealed that there is a positive significant relationship between using Artificial Intelligence and human resource management practices in particular When Artificial Intelligence technology was included in the training and development process, it was found that employees and human resource managers would perceive that the time spent on training and development was excessive.

These are in keeping with Agarwal (2021) who stated that there is a significant relationship between the adoption of Technology and using Artificial Intelligence applications in the field of human resources.

The introduction of Artificial Intelligence and Gamification will have a significant impact on the way HRM functions. It will enable the organization to improve the efficiency of its talent acquisition processes and provide continuous assessment of its employees. It will also enable it to respond to the needs of its customers.

Which is supported by a study done by Niehueser and Boak (2020) who proved a strong relationship between Artificial Intelligence and the effectiveness of human resource management practices. This is expected to shift the work of HRM from reacting to external factors to one that is proactive. This challenge is expected to be solved by developing new skills such as the ability to work in virtual environments and translating machine-provided figures into human ones. Besides these, companies will also need to develop effective communication skills between their machine and human actors. The increasing power of AI in

making decisions will also raise questions regarding the level of Job insecurity for employees. Organizations Using Artificial Intelligence in managing HR functions to employees, have to ensure that employees feel secured towards using any kind of technology in their jobs.

to increase the motivation and commitment of employees, as well as improve their trust and efficiency. In addition to being able to use Artificial Intelligence and Gamification in HR Functions, Employees should be taught how to communicate effectively with using any kind of technology in their jobs to guarantee their trust and commitment. This is supported by Prasad, Alexander, and Misra (2019) they revealed that there is a positive relationship between employee engagement and gamification.

The findings of this research showed that employees are more likely to use Artificial Intelligence and Gamification in their workplaces. AI is widely used in organizations to improve their efficiency and productivity. It can help them develop better processes and provide them with greater control over their work. This finding is in contrary with Abdeldayem and Aldulaimi (2020) who declared that Due to the increasing number of women and men in the workforce, it is expected that the use of artificial intelligence will have a negative impact on the management of human resources.

However, there is still a lack of evidence on the effects of these technologies on the workforce. This research contributes to the literature by providing a comprehensive analysis of the various effects of these technologies. also, the research revealed that job insecurity could influence employees to look for other careers due to the increasing presence of Artificial Intelligence in their workplaces. And this is keeping with Krutova, Turja, Koistinen, Melin, and Särkikoski (2021) who revealed that there is a negative effect on job insecurity and the acceptance of new technologies in the workplace. It also found that the use of gamification and artificial intelligence could contribute to the development of job insecurity, and this is supported by Presbitero and Teng-Calleja (2022) and they revealed that employees with high levels of anxiety seeing that Artificial Intelligence AI is taking over their jobs.

The rise of gamification and Artificial Intelligence in the workplace has raised concerns about the increasing number of jobs that are threatened by the continued integration of these technologies. Moreover, the research explored the perceptions of employees about the use of Artificial Intelligence and Gamification in their workplaces. Artificial Intelligence is a powerful technology that can improve organizational processes and provide greater productivity. However, its effects on the workforce are still poorly understood. Despite the limited research on the subject, this research also provides valuable insight into the effects of these technologies on the HR employees. In addition, this research explored the effects of Artificial Intelligence and gamification on the job insecurity of employees. It was also conducted to analyze the perceptions of employees about their future jobs and the various threats that they face in the workplace. From this perspective, the results of this research recommended that Organizations should focus on improving the employees' skills of using technology and this could be achieved by human resource managers should be able to map out the integration between Artificial Intelligence and the functions of human resource management and how the employees respond to the technology with no fear of losing their jobs.

6. Limitations and direction for future research

Although this research provided valuable insight into the use of Artificial Intelligence and using Gamification in a workplace, to improve HR management practice. The research focused on perceptions of employees about using both Artificial Intelligence and Gamification in HR management practices, Further studies are also needed to analyze the reactions of employees when they encounter Artificial Intelligence technology in various stages of its development. This will allow researchers to gain a better understanding of how the technology affects their perception. Further studies are also needed to examine the link between psychological ownership and job insecurity. There are also various avenues that can be explored to understand the mediating role of phycological ownership in the relationship between using automation and job insecurity. it is not yet clear if the results were influenced by the types of jobs that were examined. These types of jobs may additionally affect the generalizability of the findings.

This could provide new insight into the effects of Artificial Intelligence on job insecurity and how it can affect the perceptions of workers about it. Doing so would also help employees develop better understanding of how it can affect their job security. Additional studies are also needed to develop a

diagnostic tool that will help organizations align their Artificial Intelligence and Gamification strategy with their culture and systems. This tool should also be able to identify areas of concern that need to be resolved in order to enhance the effectiveness of their program. The previous study revealed that employees were more likely to recommend using gamification programs for enhancing engagement. Consequently, A study is also needed to analyze the effects of Gamification on employee engagement. This study should involve conducting a randomized controlled trial. It should additionally include both pre- and post-testing.

Further research could focus on the difference between employees' perceptions based on their Generation. Due to the radical change in technology, the current generation is able to work with technology in an efficient way than the previous generations. For this reason, a study could measure the perceptions for both Generation Z and Generation X about using Artificial Intelligence applications in workplace.

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The impact of green marketing strategies on consumers' purchasing intention

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Keywords

Eco-friendly, Environmental Sustainability, Green Marketing, Green Marketing Mix, Green Marketing Strategies, Green Purchase Intention.

Abstract

In the last few decades, the concern about the environment has evolved by not only being an important public matter, but it also became a critical matter for academic research as well. The term "green marketing" refers to efforts that promote environmental sustainability. This study aims to investigate the green marketing strategies and how they might impact the consumers' purchase intention. This study investigated the impact of green marketing strategies on consumers' purchase intention by using both primary and secondary data. Primary data utilized in this study through collecting data from the sample or target population through a survey using the non-probability quota sampling technique in order to evaluate hypotheses. Hence, a structured questionnaire was distributed and got responded by 385 respondents. Data were then analyzed through descriptive analysis, factor analysis, correlation matrix, regression, reliability, validity and normality tests. Secondary data utilized in this study was gathered by reviewing the literature and previous studies about the green marketing and its strategies and the consumer's purchase intention.

Findings and results of the study indicated that green marketing strategies does have a positive impact on consumers' purchase intention. As all the results showed that there was a significant, direct and moderate relationship between the variables of the study. Moreover, the main findings of the study showed that although each strategy alone has a positive impact on consumers' purchase intention but, using green marketing's four strategies altogether is the best approach to stimulate consumer's purchase intention.

Introduction

In the last few decades, the concern about the environment has evolved by not only being an important public matter, but it also became a critical matter for academic research as well. In the United States and Western Europe, there has been a significant increase in environmental activism. Since the 1970s, greater environmental awareness has resulted in a beneficial shift in consumer behavior toward ecologically friendly items. This development aided in the start of the green revolution, which aimed to avert additional environmental devastation. Green marketing, in fact, is a sort of marketing that tries to lessen our environmental impact through design, production, packaging, labelling, and consumption (Delafrooz, et al., 2013).

Since its inception, the concept of green marketing, which aims to decrease the societal and environmental effects of standing products and production schemes and is used to define marketing tactics acted upon to indorse environmentally friendly products, has evolved and three steps of examination were carried out (Peattie, 2001). The fundamental concept and the goal of green marketing is to create awareness about environmental issues and the benefits that consumers may bring to the environment by purchasing green products (Öztürk, 2020). As a result, although green marketing initiatives attempt to provide people with more knowledge, they also present consumers with additional options for consuming green products and incorporating them into their lifestyle (Jacob & Cherian, 2012).

In the 1970s and 1980s, the marketing literature looked at environmental issues in depth, but consumer and business interests in these issues remained minor. The Brundtland Commission, formerly known as the World Environmental Protection and Development Commission, published a report in 1987 that prompted a discussion of sustainability terminology, as well as green marketing and environmental marketing terms, in marketing literature to meet today's needs without jeopardizing future generations' ability to meet their own needs (Baker & Saren, 2010).

This however, urged the researcher to examine and investigate the second variable, Consumer's Purchase Intention.

Purchase Intention is defined as the likelihood of a consumer's willingness to buy a product in the near future. It is usually associated with a customer's attitude, perception, and purchasing behavior (Bilal & Ali, 2013). It is found that purchase intention is an essential component for consumers when they are deciding whether to buy a product or not (Bilal & Ali, 2013). This is the reason why purchase intention is always taken into consideration when studying or researching consumers' purchasing behavior, as many researchers have utilized purchase intention as a dependent variable to study and examine the factors that influences consumers' purchasing behavior.

This study aims to investigate the green marketing strategies and how it impacts the consumers' purchase intention. Hence, each strategy was tested solely as follows:

The impact of Green Products, Eco-Labeling and Eco-Branding on consumers' purchasing intention.

The impact of Green Distributions on consumers' purchasing intention.

The impact of Green Prices on consumers' purchasing intention.

The impact of Green Promotions and Green Advertising on consumers' purchasing intention.

In order to investigate each the variables of the green marketing, the research acknowledged the importance of the strategies' sub-variables as follows:

Green products have two sub-variables: Eco-labeling and Eco-branding.

Green promotions have one sub-variable: green advertising.

Green Marketing Literature Review

In the literature, the term "green marketing" is used to refer to concepts such as "ecological marketing," "sustainable marketing," and "green consumption," all of which necessitate the integration of environmental elements in marketing efforts (Crane, 2011).

The green marketing concept entails a wide range of activities aimed at safeguarding the environment, establishing consumer rights, and meeting consumer needs and wants. Consumers in today's society are more concerned about their personal safety and want everything to be environmentally friendly, resulting in a greener world. Green marketing combats misleading methods, grey marketing, and food contamination, as well as protecting customers from corrupted businessmen. By now, everyone from the government to various parties, agencies, non-governmental and commercial organizations have pledged to carry this responsibility. Regrettably, a mainstream of people accepts as true that green marketing only relates to the advertising or promotion of products with environmental features. Also, consumers only identify frequently green marketing with terms like phosphate-free, recyclable, refillable, ozone-friendly, and environmentally friendly (Matin & Alauddin, 2016).

(Polonsky, 1994) defines green marketing as "All activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment".

While according to (Peattie, 1995) green marketing is defined as "the holistic management process responsible for identifying and satisfying the requirements of customers and society, in a profitable and sustainable way"

The term "green marketing" refers to a company's efforts to create, promote, price, and distribute products that are environmentally friendly. When the public showed a desire for green products or services, as well as a green lifestyle, green marketing began to play a dominant role in customers' satisfaction. And after that, the green concept came into eminence in the late 1980s and early 1990s (Matin & Alauddin, 2016).

Green marketing encompasses a wide range of actions, including product modification, manufacturing process improvements, packaging changes, and advertising adjustments. However, defining green

marketing is not an easy issue. Some of the terms that have been used in this field include green marketing, environmental marketing, and ecological marketing. Green marketing became popular in the late 1980s and early 1990s, but it had been considered for a long time before then. In 1975, the American Marketing Association (AMA) hosted the first "Ecological Marketing" workshop. The workshop's contents were published as "Ecological Marketing," as one of the earliest publications on green marketing.

Green marketing, in a nutshell, is marketing that incorporates environmental and environmental resource considerations. The term "green marketing" has been redefined and divided into three main categories: (Singh, 2013)

Environmental Definition: Organizational efforts to develop, promote, package, and recover products in a way that is environmentally conscious or responsive to ecological matters (Yildirim, 2014).

Retailing Definition: The promotion of goods or services that are ostensibly safe for the environment (Yildirim, 2014).

Social Marketing Definition: The development and promotion of goods or services that are designed to improve the quality of the physical environment or to reduce its harmful impact (Yildirim, 2014).

Green Marketing Mix

Green marketing mix, refers to a collection of marketing tools and components, allows a company to serve its target market and achieve its objectives without harming the environment (Al-Salaymeh, 2013).

Green Product

Green products are re-usable, recyclable, and renewable, and are meant to suit people's needs while causing no harm to individuals or the environment. They are also green in terms of their lifecycles (Polonsky, et al., 2002).

Eco-Labeling

They are a type of packaging that can take the form of a sheet of paper or a diagram. Labels contain detail about the brand product as well as a lot more. Labels serve two essential purposes: they provide knowledge, and they provide meaning (Sharma & Trivedi, 2018).

Eco-Branding

Eco-branding, on the other hand, is used to distinguish a brand based on its environmental benefits. Eco-branding separates a product from others and helps it stand out from the thousands of different products available. An eco-brand can easily differentiate between a green and non-green product (Amit, 2013).

Green Distribution

The word "green distribution" refers to channel selection that minimizes environmental harm. The bulk of environmental pollution occurs during the transportation of goods. As a result, businesses must take safety precautions when delivering goods (Eneizan, 2015).

Green Price

Green price refers to the willingness of the consumers to pay a premium price for a green product that is guaranteed to have environmental benefits (Olawajaju & Ganiyu, 2021).

Green Promotion

Green promotion encompasses any efforts or marketing tools aimed at generating and facilitating any exchanges intended to meet human needs or desires in a way that has the least possible negative impact on the natural environment (Hosseinzadeh & Azizpour, 2013).

Green Advertising

Green advertising are advertisements presented to consumers that give the consumers the chance to compare, to find out what proportion of recycled items are used and what they are made of and provides them with the real environmental information (Phau & Ong, 2007).

Purchase Intention Literature Review

Purchase Intention is defined as the likelihood of a consumer's willingness to buy a product in the near future. It is usually associated with a customer's attitude, perception, and purchasing behavior (Bilal & Ali, 2013). It is found that purchase intention is an essential component for consumers when they are deciding whether to buy a product or not (Bilal & Ali, 2013). This is the reason why purchase intention is always taken into consideration when studying or researching consumers' purchasing behavior, as many

researchers have utilized purchase intention as a dependent variable to study and examine the factors that influences consumers' purchasing behavior.

Purchase Intention can also be defined as an individual's intention to purchase a certain brand that they have picked for themselves based on their own evaluation (Bhakar & Dubey, 2015).

Moreover, Purchase Intention has a significant importance as the organizations nowadays raise their sales rate of certain products for the sake of maximizing their profits (Nawaz, et al., 2013).

Intrinsic and Extrinsic Factors

A buyer's purchasing behavior may be influenced by a variety of factors. These factors might be either intrinsic in nature, or extrinsic in nature (Bilal & Ali, 2013).

It is implied that both intrinsic and extrinsic factors are equally important or have the same significance each on its own, and that both should be taken into account when analyzing consumers' purchasing intentions. However, due to time and financial constraints, it is not possible to investigate all the intrinsic and extrinsic factors that may influence customers' purchase intentions in a single study, so, researchers are attempting to develop a model that takes into consideration a few key aspects of both intrinsic and extrinsic factors and forecasts the impact of those factors on customers' purchasing intentions most effectively (Bilal & Ali, 2013).

Theory of Reasoned Action VS Theory of Planned Behavior

The most common ideas in marketing literature that describe the buying behavior are two: one is the theory of reasoned action, and the other is the theory of planned behavior (Ajzen, 2015). The closest determinant of behavior, according to Planned Behavior theory, is intention. The intention to buy and, the actual purchase is inextricably linked (Ajzen, 2015).

Theory of Reasoned Action focuses only on explaining behavioral intention, while the Theory of Planned Behavior focuses on predicting and explaining both the actual behavior and the behavioral intention. Several studies investigated the customers' attitudes and thoughts towards green products.

According to the Theory of Reasoned Action (TRA), behavioral intentions are determined by subjective norms and attitudes (Zhang, et al., 2020). In the meantime, one's actions are the outcome of a certain behavioral intention (Ajzen, 2006). As a result, one's intention is an excellent tool for forecasting the behavior of an individual. Even though the TRA model explicates customers' purchasing intentions splendidly, the model was formerly developed under the supervision of theories of consumer behavior in the West (Zhang, et al., 2020). As a result, the model may not be appropriate for usage in different social and economic contexts (Zhang, 2007). Meanwhile, when utilizing the TRA model to research customers' intents to purchase various products, more variables should be considered, and modifications should be made (Chan, et al., 2007).

Subjective Norms

The influence of the surrounding environment on individual conduct is referred to as a subject norm. Moreover, a subject norm can also be referred to as the pressure that comes externally on people to perform in a given manner or not to perform in a certain manner (Zhang, et al., 2020). Also, concluding or observing what our beloved ones expect us to do or agree or disagree on what we are doing forms "injunctive normative beliefs." On the other hand, "descriptive normative beliefs" are formed based on those social referents' observed or inferred actions (Ajzen, 2015).

Attitude

The term "attitude" refers to a comprehensive assessment of an individual's favorable or negative perceptions on a particular behavior (Zhang, et al., 2020).

The assumption that our attitudes are formed on the basis of our beliefs is ingrained in the most widely used model of attitude establishment and structure, the Expectancy Value (EV) Model and according to the EV Model we create behavioral beliefs, by linking behavior performance with specific consequences (Ajzen, 2015).

Perceived Behavioral Control and Control Beliefs

Likewise attitudes and subjective norms, perceptions of behavioral control are expected to consistently adhere to beliefs that are easily accessible, in this matter, beliefs regarding resources and impediments that can help or hinder a person's performance of a specific behavior. These may consist of the talents and abilities required to conduct the behavior, the extent of time and currency needed, the cooperation of others, and so on (Ajzen, 2015).

The capacity of each control component to facilitate or hinder behavioral performance contributes to perceived behavioral control in direct proportion to the person's subjective likelihood that the control factor is present, similar to the expectancy-value model of attitude (Ajzen, 2015).

Green Purchase Intention

In the early 1970s, extensive study was conducted on green purchasing behavior. Numerous aspects played a role in influencing customer purchase decision of green products or services such as beliefs, wants, needs, motivation, ideals, values, demographics, personal information, and attitudes (Bui, 2005).

Green purchase intention refers to the inclination and possibility of an individual to prefer eco-friendly products to traditional products (Rashid, et al., 2009). It has a positive impact on consumers' decisions to buy green items (Beckford, et al., 2010).

Behavioral intents are a means to analyze a person's comparative ability to carry out a specific behavior (Paladino & Ng, 2012). According to (T.Ramayah, et al., 2010) green purchasing intention is a precursor to action. While (Han, et al., 2009) stated that green purchasing intention is recognized as the likelihood of the consumers booking and staying in a green restaurant for example, will spend extra eventually and also send out a positive word of mouth. (Han, et al., 2009) also created a three-dimensional conceptual model to explore green purchase intent: the intention to visit, positive word-of-mouth intention, and desire to spend more.

(Chan & Lau, 2000) theorized a model containing ecological concern, green purchase intention, ecological knowledge, man's natural instincts and the actual purchase behavior. This model was in line with the two of the theories of purchase behavior, and their results recommended that the actual green purchase decision or behavior depends on the individual's green purchase intention. While (Qader & Zainuddin, 2011) acknowledged the impact of media exposure on green buying intention, notably for lead-free electronic devices. Green buying intentions were assessed in terms of an individual's plan of action and likelihood of carrying out an eco-behavior.

Environmental Attitudes

Green purchasing intentions can be influenced by a number of factors, one of which is one's attitude toward the environment. Attitude is a state of readiness that affects how a person reacts to numerous situations and objects with which it is related (Allport, 1935). Environmental concern is deeply embedded in a person's self-concept and belief that he or she is an integral part of Mother Nature (Zelezny & Schultz, 2002). Attitude exemplifies what customers likes and dislikes, as a result of which purchase decisions are influenced (Bakewell & Mitchell, 2006).

Government Initiative

The actions conducted by the government to protect the environment are known as government initiatives (Diekmeyer, 2008).

(Pavan, 2010) advised that the government should carry out public campaigns to raise public awareness about eco labelling. In which can ultimately affect the purchase behavior of customers. Consumers also stated that, despite their strong environmental concerns, the government bears a greater share of responsibility for the environment's long-term sustainability and preservation (Tsen, et al., 2006).

Peer Pressure

Peer pressure is the psychological pressure that people feel when they compare their behavior to those of their peers (Usmani, et al., 2015). Peer pressure or the shame of being a non-conformist can produce a

behavioral shift, which cannot be caused solely by providing information. Changing an individual's environment also changes his or her style of thinking (Daido, 2006).

The terminology "social influence" denotes to whether the individual must or must not perform an action in referent's point of view (Kalafatis, et al., 1999).

Perceived Environmental Responsibility (PER)

Another factor that motivates consumers to buy green items is their awareness of their environmental and social responsibilities to protect nature, the environment, and society from the harmful effects of consuming non-green products. In this case, The PER refers to the level of emotional involvement with environmental issues. PER simply refers to a person's attitude and behavior that he or she is responsible for what they consume and how it affects the nature and the environment (Usmani, et al., 2015). The PER is a key factor that influences a person's desire to make green purchases (Lee, 2008).

Conceptual Model

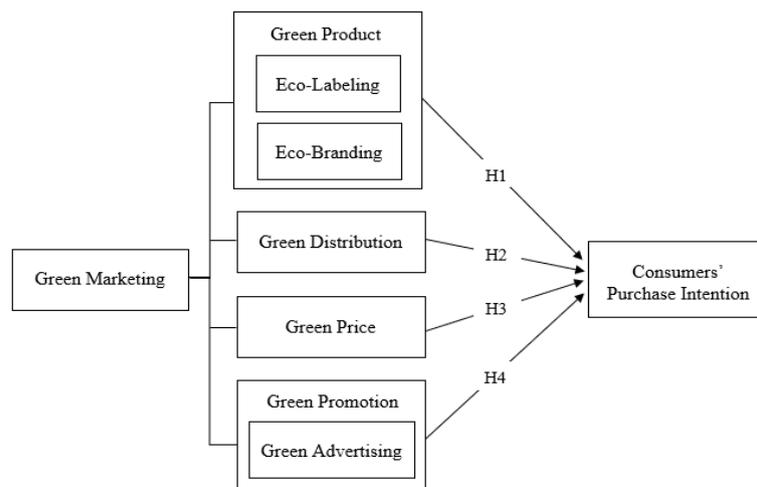


Figure 3.1: Conceptual Model.

Source: Developed by the Researcher.

Research Hypotheses

Based on the literature review green marketing has four main strategies, which are the Green Products, Green Distribution, Green Prices, And Green Promotions (Öztürk, 2020) which influence the consumer behavior and the green purchase intention (Sharma & Trivedi, 2018). Therefore, the following hypotheses were developed.

H₁: There is a positive impact of Green Products on consumers' purchasing intention.

Emanates from hypothesis 1 the following sub hypotheses:

H_{1a}: There is a positive impact of Eco-Labeling on Consumers' Purchasing Intention.

H_{1b}: There is a positive impact of Eco-Branding on Consumers' Purchasing Intention.

H_{1c}: There is a positive impact of Eco-Labeling and Eco-Branding on Consumers' Purchasing Intention.

H₂: There is an impact of Green Distributions on Consumers' Purchasing Intention.

H₃: There is a negative impact of Green Prices on Consumers' Purchasing Intention.

H₄: There is a positive impact of Green Promotions "Green Advertising" on Consumers' Purchasing Intention.

H₅: There is a positive impact of Green Marketing represent in Green Product, Green Distributions, Green Prices and Green Promotions "Green Advertising" on Consumers' Purchasing Intention.

Research Methodology

Research Philosophy

This research relied on the Positivism Philosophy. The positivism philosophy allowed researcher to examine hypotheses studied in prior studies using statistical analysis, aided in formulating key assumptions

depending on the study's objectives and testing the study's hypotheses by creating instruments that employ quantitative approaches to measure a phenomenon in repeatable ways (Saunders, et al., 2009).

Research Approach

The approach used in this study is the quantitative approach, as this study aims to test the causality between the variables and the research hypotheses and questions requires testing. Moreover, the quantitative approach fits with the positivism philosophy, as well as serving the type of the research which is the descriptive and explanatory as literature review was examined, variables are explained, described and hypotheses are tested (Akhtar, 2016). Finally, this research collects and analyzes data numerically and in a statistical form and a survey was responded by 385 respondents.

Research Strategy

The strategy applied on this research is the survey strategy, as it served our quantitative approach. By collecting data that can be statistically examined, it allowed the researcher to quantify the problem (Williams, 2007). Moreover, this research aims to investigate the consumers' purchase intention and deals with the mass population by targeting a random sample from as many consumers as the researcher can reach. Also, the survey strategy is appropriate for the descriptive and explanatory nature of this research. Lastly, the survey strategy is used to objectively generalize the research results and findings.

Scale and Measurement

The sources of the survey constructs are summarized in the table below: "Measurement Scale: Five-point Likert scale with end anchors, 1 (Strongly Agree) and 5 (Strongly Disagree)"

Construct	Source
Product	(Haws et al., 2014)
Eco-Labeling	(Riskos, et al., 2021)
Eco-Branding	(Saari, 2016)
Price	(Onurlubaş, 2018)
Place	(Bailey et al., 2016); (Onurlubaş, 2018)
Promotion "Advertising"	(Bailey et al., 2016)
Purchase Intention	(Shukla, 2010)

Table (3.1): Scale and Measurement.

Source: Developed by the Researcher.

Data Collection

The researcher applied both primary and secondary data to test the research hypotheses. The primary data utilized in this study was collecting data from the sample or target population through a survey to evaluate hypotheses. The secondary data utilized in this study was gathered by reviewing the literature and previous studies about the green marketing and its strategies and the consumer's purchase intention. The researcher collected, investigated, summarized, and compared data, theories, models and results from various sources of data such as textbooks, papers, management journals, electronic resources, and published reports.

Research Population and Sample Selection

In this research, Non-Probability Quota Sampling was applied for the sample selection. Which means that, sample selected so that each individual or person in the population has the same chance to be included in the sample. Sample size was calculated using the two steps, calculating the adjusting sample size for unlimited population and calculating an initial sample for pilot study.

Statistical Analysis and Conclusions

The researcher has designed a questionnaire consisting of three sectors, the first one includes the demographic characteristics of the sample, the second one includes the independent variable and its dimensions, the third one includes the dependent variable.

Descriptive Analysis

The main study variables will be analyzed in order to determine measures of location like mean, maximum and minimum values, and their measures of dispersion, standard deviation and coefficient of variation for each variable.

Variable	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
Eco-Labeling	1.50	5.00	3.4279	0.738	0.22
Eco-Branding	1.00	5.00	3.8344	0.718	0.19
Green Products	1.71	5.00	3.62	0.680	0.19
Green Distributions	2.00	5.00	3.8558	0.610	0.16
Green Prices	1.75	5.00	4.0104	0.620	0.15
Green Promotions	1.14	5.00	3.80	0.690	0.18
purchasing intention	1.00	5.00	3.83	0.733	0.19

Table (4.1): Variables Descriptive Analysis.

Source: Developed by the Researcher from SPSS Output.

The following table presents the variables with their weighted average mean of frequencies and the result of voting for each variable.

Variable	Mean	Result
Eco-Labeling	3.4279	Agree
Eco-Branding	3.8344	Agree
Green Products	3.62	Agree
Green Distributions	3.8558	Agree
Green Prices	4.0104	Agree
Green Promotions	3.80	Agree
purchasing intention	3.83	Agree

Table (4.2): Weighted Average Variables Mean of Frequencies.

Source: Developed by the Researcher from SPSS Output.

From table (4.2) it is concluded that the weighted average means of the independent, Moderator and dependent variables of the study are fall in the range of the agree interval according to the Likert scale, which means that responses have low variability and consistent to each other's.

Test of Normality

The researcher applied Shapiro-Wilk test to determine whether the main variables of study follow the normal distribution or not, Shapiro-Wilk test is a Chi-squared test of normality which its null hypothesis states that variables are not normally distributed if the test p-value is less than or equal 0.05, while its alternative hypothesis states that variables are normally distributed if the test p-value is more than 0.05.

Variable	Statistic	DF	P-value
Eco-Labeling	0.982	385	0.000
Eco-Branding	0.937	385	0.000
Green Products	0.987	385	0.002
Green Distributions	0.973	385	0.000
Green Prices	0.960	385	0.000
Green Promotions	0.972	385	0.000
purchasing intention	0.954	385	0.000

Table (4.3): Shapiro-Wilk Test of Normality.

Source: Developed by the Researcher from SPSS Output.

From table (4.3) it is concluded that all the independent, dependent and the Moderators variables are not normally distributed as their p-value of Chi-square statistic is less than 0.05, so the alternative hypothesis will be accepted that the variables are not following the normal distribution.

Test of Responses Reliability

The term reliability generally refers to the consistency of a measure. The statistical approach to estimating reliability varies depending upon the purpose of the measure.

Cronbach's Alpha test to measure the degree of study variables stability and the following table presents that the stability factor for the sample responsiveness is 90.7% which means that the responses were very high and stable in that questionnaire.

Variable	Number of statements	Cronbach's Alpha
Eco-Labeling X_1.1	4	0.899
Eco-Branding X_1.2	4	0.899
Green Products X_1	7	0.885
Green Distributions X_2	4	0.888
Green Prices X_3	4	0.885
Green Promotions X_4	7	0.877
Purchasing Intention Y_1	3	0.880

Table (4.4): Cronbach’s Alpha Reliability Test for Variables of Study.

Source: Developed by the Researcher from SPSS Output.

From table (4.4) it is concluded that there is a high level of reliability for the responses for each variable as the Cronbach’s Alpha test show high level of stability as it values for each variable is more than 70%.

Test of Responses Validity

Validity is the extent to which a concept, conclusion or measurement is well-founded and likely corresponds accurately to the real world based on probability. The validity of a measurement tool is considered to be the degree of probability to which the tool measures what it claims to measure, in this case, the validity is an equivalent to a percent of how accurately the claim corresponds to reality.

Variables and statements	t	Df	P-value
Green Products X_1	104.608	384	0.000
Eco-Labeling X_1.1	91.130	384	0.000
Eco-Branding X_1.2	104.741	384	0.000
Green Distributions X_2	123.979	384	0.000
Green Prices X_3	126.769	384	0.000
Green Promotions X_4	106.617	384	0.000
Purchasing Intention Y_1	102.531	384	0.000

Table (4.5): Validity t-test for Study Variables.

Source: Developed by the Researcher from SPSS Output.

Validation t-test used to measure the extent of statements consistent with the responses in the questionnaire, and from the following table it found that t-test values are all positive and significant as it’s all p-value is equal to 0.0000 and this presents a high level of consistency.

Correlation Matrix

Variable	Y_1	X_1.1	X_1.2	X_1	X_2	X_3	X_4
Y_1	1.000						
P-value	-						
X_1.1	0.515**	1.000					
P-value	0.000	-					
X_1.2	0.492**	0.392**	1.000				
P-value	0.000	0.000	-				
X_1	0.658**	0.661**	0.477**	1.000			
P-value	0.000	0.000	0.000	-			
X_2	0.588**	0.464**	0.542**	0.518**	1.000		
P-value	0.000	0.000	0.000	0.000	-		
X_3	0.665**	0.428**	0.561**	0.602**	0.670**	1.000	

Table (4.6): Spearman Correlation Coefficient Matrix.

Source: Developed by the Researcher from SPSS Output.

From table (4.6) it is concluded that the overall there is a significant, direct and moderate relation between the dependent variable Consumers' Purchase Intention and all the study's independent variables.

The Regression Analysis

Under this part, the researcher will test the impact of each dimension of green marketing strategies on consumers' purchase intention individually using simple OLS regression models, then will determine the impact of all dimensions of green marketing strategies on consumers' purchase intention by applying multiple OLS regression models.

Model	OLS Simple	Dependent variable	Purchasing intention
Variables	Coefficient	p-value	Significance
constant	0.0967853	0.5398	Insignificant
Green Products X_1	0.199386	<0.0001	Significant
Green Distributions X_2	0.124912	0.0167	Significant
Green Prices X_3	0.220437	<0.0001	Significant
Green Promotions X_4	0.484625	<0.0001	Significant
Adjusted R-squared	85.7296%		

Table (4.7): Multiple regression model for the hypothesis H_5 .

Source: Developed by the Researcher from SPSS Output.

From table (4.7) it is concluded that the overall model is significant as the p-value of the Green Products X_1, Green Distributions X_2, Green Prices X_3 and Green Promotions X_4 except constants is less than 0.05, and the model adjusted R-squared is 85.7296% which means that 0.857296 change in the dependent variable purchasing intention is due to Green Products X_1, Green Distributions X_2, Green Prices X_3 and Green Promotions X_4 by 1.

Conclusion of the Scale Findings

The statistical analysis of 384 survey questionnaires dispersed in a random sample size utilizing Correlation Matrix and Multiple Linear Regression was considered valid and reliable for this study.

First, The Findings of the Measures used in the Research Study:

According to the Likert fifth scale, all the dimensions had positive means, indicating that the scale's reliability and validity were acceptable, which implies that the study's overall variables were also accepted. This is a solid indicator that the variables investigated will have a relationship as well.

Second, The Hypotheses Testing Findings:

All the results showed that there was a significant, direct and moderate and significant relation between the variables of the study. It was then followed by Multiple Linear Regression to test the study's hypotheses, which showed the following results:

	Hypothesis	Results
	H_1 : There is a positive impact of Green Products on Consumers' Purchasing Intention.	Accepted
	H1 _a : There is a positive impact of Eco-Labeling on Consumers' Purchasing Intention.	Accepted
	H1 _b : There is a positive impact of Eco-Branding on Consumers' Purchasing Intention.	Accepted
C	H1 _c : There is a positive impact of Eco-Labeling and Eco-Branding on Consumers' Purchasing Intention.	Accepted
	H_2 : There is an impact of Green Distributions on Consumers' Purchasing Intention.	Accepted
	H_3 : There is a negative impact of Green Prices on Consumers' Purchasing Intention.	Rejected
	H_4 : There is a positive impact of Green Promotions "Green Advertising" on Consumers'	Accepted

Table (4.8): Research Hypotheses Results.

Source: Developed by the Researcher.

Main Findings and Discussion

According to the scale results and the statistical analysis performed, it was concluded that consumers respond optimally when they are exposed to the four green marketing strategies altogether, which stimulate the purchase intention. Although each strategy showed a significance level to stimulate consumers' purchasing intention on its own which is supported by the existing literature that stated that green products, green distribution impacts the consumer behavior (Eneizan, 2015) and according to (Sharma & Trivedi, 2018) green prices and green promotions and advertising does have an impact on the consumers' purchasing intention, yet, this study suggests utilizing the four strategies altogether which is better for the stimulation as indicated from the statistical analysis results of the fifth hypothesis as it showed that consumers tend to respond more proactively when they are exposed to the four strategies rather than one strategy solely. Hence, the main recommendation of the study for future marketers is to enhance the marketing tactics and utilize the four green marketing strategies altogether to achieve optimum results needed from the consumers.

Research Limitations

Because nothing is absolute, every study has some limitations. Listed below, some of the limitations of this research:

The researcher found a difficulty in reaching the needed sample size at a short time range due to Covid-19, there were a minimum level of presence in the researcher's surroundings which also lead to a difficulty in conducting in-depth interviews.

There were limited count of papers and literature review on the dependent variable "Consumers' Purchase Intention" that tackles all its types and the factors affecting it up to the best knowledge of the researcher.

There were no existing models or hypotheses that combined the four variables understudy up to the best knowledge of the researcher.

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The trade participation of developing countries in the context of the global value chains

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Key words

global value chains, COVID-19 pandemic crisis, uncertainty, ripple effect, economic resilience, MNCs.

Abstract

This Paper explores the main role of Global Value Chain on the Pattern of International Trade and the impact on the developing and New-industrial countries through exports promotion of intermediate goods across value chains activities globally, In Addition exploring the effects of the participation on the pattern of international trade and the new reallocation of industrial hubs which have been distributed along the global value chains over the world. The study applies the Qualitative analysis using the macro indicators relevant to the phenomenon to explain its impacts on the developing economies in a selected industry .

Introduction

Due to the expansion of the activities of Global value chains and their inclusion of all economic sectors on an international scale, many developing and emerging countries are tended to be engaged in global value chains through vertical specialization in one or more of the production stages of many productive sectors. Thus, this study analyzes the main trade indicators that are related to global value chains across a number of sectors most traded in global value chains to determine the extent of participation of developing countries in these chains that resulting in shifting in the patterns and trends of international trade and the change of international production centers for countries participating through the Global value chains.

Global value chains in agricultural and food commodities

Value chains in agricultural and food industries are more international in nature than regional, especially in the case of small economies, especially East Asian countries, which participate in many stages throughout the global value chains. However ,China has a different situation with regard to agricultural and food products, unlike global value chains. In other products, where the percentage of domestic added value increases in the inputs of intermediate goods used across the various stages of production, and the global value chain analysis includes food manufacturing industries, agricultural commodities, in addition related to the complementary services, where global value chains are linked to the downstream countries with the so-called “ The agri-food industry” includes both agricultural products , the food and beverage industry.

In this Regards , the Agri-food industry is increasingly organized and structured across global value chains through producers of processed and semi-processed food commodities, farmers and retailers in the participating countries, which in turn requires coordination Between traders and distributors. on the one hand, importers and exporters regarding managing and organizing how agricultural products are grown and processing methods to ensure that the final products would meet the quality and food safety standards . Therefore, the vertical integration of all producers at the different stages along the chain is necessary to ensure fulfilling these Global standards.

Regarding the consumption side, it was remarkable that in many countries the consumption pattern has changed, as consumers demand toward high-quality products that comply with health and safety standards, which has provided an opportunity for foreign direct investment and international companies producing food products in light of the trend towards liberalizing international trade to restructure and organize their value chains. Through the participation of many local producers of other countries in the

value chains organized by international companies (MNCs) in the developing countries, whose activities are linked to producers in developed countries through value chains through the fragmentation of production across the chain links.

The Characteristics of the value chain in agricultural commodities

In terms of length, the value chains of agricultural and food products are relatively long compared to value chains in other products, because of the stages they include, such as animal husbandry in some cases (such as dairy products), in addition to the fact that there are many agricultural inputs in the pre-production stage, Then the processing stages are carried out in the countries that specialize in the final stages of production downstream, and due to the high degree of fragmentation and the multiplicity of production stages across this industry, it is the longest to reach the final consumer.

In terms of the participation, it is notable from the Data reports issued by the OECD that in some developing countries such as (Vietnam, Cambodia and Argentina) the global value chain of agricultural products represents the highest percentage of exports, and for Argentina, it participates in the initial stages of upstream production in the chain compared to both From (Vietnam and Cambodia), China also occupies a high position in the index of participation in the upper stages of the value chain (which indicates that it participates in more than one stage of production with higher added value across the value chain), while India has a lower index Despite its high participation in value chains, and despite the similarity of the agricultural share in both countries. However, there is a difference in the participation of both of them in the agricultural value chain, and this is explained by the fact that India produces products that are characterized by the distance / closeness to the final consumers during less productive stages, while China participates in products with much longer production chains due to its participation in production processes in its various stages, which leads to an increase in the local added value of it through the value chains. Which mainly produce the inputs used in agricultural activities in other countries, and the three countries (*New Zealand, Vietnam, and the Netherlands*) are the countries most involved in the value chain of food and beverage products, and (*Malaysia, China and Korea*) are the most specialized in inputs in the production stages Intermediate goods in the upper links of the value chain (higher value added), while Mexico, Vietnam and Greece are among the countries that are most specialized in the final production stages in the lower links of the chain (lower centers) with the lowest added value, in addition to their participation in the processing services of imported food and agricultural products ⁴.

The Global value chain of the chemical Industry

Chemical industry is characterized by the large number of different value chains intertwined over its chain, which reflects the diversity and multiplicity of final and intermediate products across value chains more than other Industry chains, as the structure of the entire value chain starts from the production of oil and gas where it is converted into petrochemicals Basic chemicals, polymers, and specialized active ingredients through another production stages along the chain. Furthermore, The chemical industries also provide the essential raw materials and inputs for many products in multiple industries such as plastics, clothing, etc.

The chemical industry market is also witnessing many developments across the different stages in the chemical value chains. For instance, within the petrochemical sector, especially polymers and propylene, it suffers from a high degree of volatility in oil prices; While the new discoveries of the many materials that depend on natural gas able to feed the industry extracted from oil rocks all over the world. thus, especially in the United States, providing industries that depend on them for their needs of raw materials and ethylene.

These various developments have also contributed to redistribute the production of the industry geographically in the last decade, which lead to a great movement toward the Middle East countries through the specialization stages in the industry. The vertical Trade in the chemicals chain contains a new number of competitors who try to seize the opportunities to participate and achieve high profits.

Most of the inputs in the chemical industry and the related subsidiary industries are characterized by their high domestic Value added. As the indicator of the length of the global value chains indicates, which

ranges between (2 and 3) for most countries, while the length of the local production chain is longer than other industries, which led to the high participation of relatively small countries in the global production stages. In the value chains of the chemical industry 90% of the total participation in that sector, which is explained by the assembling process of the chemical industry in China with the aim of integrating them as inputs and intermediate goods through the production chains of other products in China.

With regard to the indicator of the distance to the final demand, it shows us the centers of the participating countries and the extent of their specialization in the activities of the global value chains for chemical products, which indicates a large variation in the participation of developing countries. There are some countries that specialize in basic chemicals in the initial stages, such as (Korea and China and Malaysia), while other countries are more focused on specialized activities in the later stages, for example (Ireland and Switzerland). A number of smaller countries appear in the index of high participation in value chains, especially in the chemical industries. In (Ireland) participation in value chains increases Value due to the high volume of investments for large pharmaceutical companies, especially from the United States, while (Singapore, Belgium and the Netherlands) are important outlets for basic chemical products, and for other countries (Switzerland, Germany, France, the United Kingdom and the United States) their participation in the global value chain is closely linked By producing intermediate goods that are exported for use in the production of the final product through other countries ⁵.

Global value chains in the Automotive Industry

The automotive industry is considered to be one of the industries in which production is highly fragmented on a large scale. as the nature of the industry that depends on the dismantling of production and its global distribution has prompted the outsourcing of tasks in specialized production stages, a strategy that international companies have followed since the beginning of the nineties from by dividing and distributing its production operations for parts, components, support services and assembly to many countries of the world according to the comparative advantage. And hence , the value chain of Automobiles is considered to be also one of the most organized chains as it follows a hierarchical structure that includes the leading companies producing cars, which are concentrated at the top of the pyramid as main companies responsible for design, brands and final assembly⁶, Then the first-class producers come to the bottom as they produce complete sub-systems through cooperation with a large network of lower- and sub-level suppliers ⁷, and with the development of relationships and their interdependence has become more and more profound between car assemblers and the first class of producers across global value chains . For instance, the role of producers has evolved significantly through the attribution of production operations to international companies as This includes the product design stage, where the global demand for them from major companies is increasing for the efficiency of their design capabilities for automotive production systems and more complex operational processes.

In view of the slowdown in growth rates experienced by the developed countries during the global crisis of 2008-2009 and its significant impact on international car producers, many of them have taken a new strategy to internationalize car production by dividing production processes geographically and distributing them to production centers. In developing countries to take advantage of their comparative advantages, especially the emerging countries in the Asian region, the participation of developing countries in the value chains of the automotive industry is divided into three groups:

The first Group: has been led by China, which is one of the most important centers for assembling and manufacturing auto spare parts and its support services, as well as the Philippines, Turkey, Brazil and India, the latter of which was able to maintain reasonable growth rates in the automotive sector and attract foreign investments in the automotive sector, most notably the Toyota companies Volkswagen, Ford, and Hyundai for the production of parts and components, as well as installation, assembly and maintenance services. Due to their ability to perform these services at a lower cost than their production in the mother countries, which suffered during the financial crisis from high production costs in addition to transportation and

marketing costs in different regions and what is characterized by markets Developing countries from the expansion of the size of the local market to absorb the production of international companies across the value chain in addition to their ability to better provide information related to markets and consumer preferences.

Moreover , the role of international companies is limited to designing products in the initial stages of the value chain, which provides the opportunity for local companies such as (Tata and Cherry) in China to participate in the value chain for the production of auto parts, maintenance and assembly services for them and the ability to grow faster than in the past This enables it to produce complete parts and assemble them regionally through the regional value chains spread in East Asia and export them to the American and African markets.

As for the second group, includes countries that do not have the ability to introduce modifications to parts and components, such as the countries of South Africa, Thailand, Turkey and Egypt, whose participation is limited to the final assembly of finished components in the last stage of value chains (such as the assembly of heavy and light parts, glass, seats and car bodies), according to To the standards and criteria set by the parent companies, which gave them the opportunity to increase exports in this sector.

The Third group relied on integrating into the global value chains of the automotive industry by relying on regional trade agreements as an entry point for participation, including: Mexico within the framework of the NAFTA agreement, Hungary through the European Union, and Thailand within the framework of ASIAN, and specialization in the production of components that depend on the intensity of hands operating such as wire production, electronics assembly and export to leading companies in the United States and Eastern European countries that specialized in the production of capital-intensive components and exported to the European market

Global value chains in the electronics Industry

It is one of the most widespread chains, as indicated by many applied studies that studied a number of individual products in the electronics sector. The most prominent characteristics of electronics value chains are as follows:

a- The modularity of its products.

b- Standardized products.

c- Codification and computing systems that allow the interoperability of parts and components for the segmentation of production as it includes different stages of production such as (*product design, logistics and different parts of the production process*) and is often implemented by different companies and institutions working through stages different from the value chain⁸.

d- Low transportation costs over large distances for most electronic products, which are characterized by high values and low weights, which led to dependence on fast transportation with ease and speed (often by air), in addition to low transportation, delivery and shipping expenses for intermediate and final electronic products in most parts of the world.

e- Ease of coordination and linking between the different stages of production across the different countries participating in the value chains, which are carried out via the Internet in order to share and monitor a chain of information related to them.

Therefore, the participation of developing countries takes place within the framework of international contracts, whose role is limited to assembling products to leading companies. Most of the leading companies in the electronics industry are settled in advanced economies, especially in Europe, Japan and the United States. It is also noted here that emerging economies are the most represented in companies Contract manufacturing, where companies from emerging countries (Acer and Huawei) have been able to develop their activities and move up the value chain from OEM to ODM with true original brand as the leading companies, while PC manufacturers in China also failed a bit and remained It operates under the same type of contracts.

In light of the available data, the participation of small countries has been shown to a high degree, most notably (Hungary, the Czech Republic, the Slovak Republic, Ireland) and others, through participation in

importing a huge volume of inputs from abroad to participate in the assembly operations of the final products. Thailand and China) as contract producers by relying on transformational processes of imports and re-exports as semi-manufactured goods, as well as the high participation of countries such as (Finland and Japan) largely driven by their intermediate exports with high value-added and often exported to the industrialized countries according to contracts.

In this context, the analysis of the total network of the electronics industry based on vertical trade, it turns out that there are three regions that are considered to be the dominant poles of the global production of electronics (*Asia, NAFTA and Europe*) and the industry is highly concentrated in Germany, while the Asian pole remains dominant in the global perspective in this industry. Most of the leading companies are concentrated in Japan as major producers of spare parts and electronic components, while China is concentrated in the producers according to contracts, and most other Asian countries are linked with Japan and China through value chains in the import and export of electronic components according to the comparative advantage and vertical specialization of each country, with particular importance for the participation of some Countries such as (*Philippines, Thailand, Malaysia*) and others.

Changing the pattern of international trade through participation in global value chains

The change in the pattern of international trade means a change in the relative weights of the various components of international trade, through an increase in the trend towards trade within the industry instead of trade between industries, which indicates a change in the pattern of international trade through an increase in the volume of trade in parts and components at the expense of trade in final goods and thus change The structure of exports and imports (change in the pattern of international trade) (), which is largely due to changes in the production structures of many countries participating in global value chains, through two main directions:

The first trend: the tendency of the developed countries to reshape their production system through global value chains and the fragmentation of production processes according to the competitive advantage in the production stage and their distribution along the chain, which led to the inclusion of developing economies in their productive circles according to their specializations.

The second trend: the tendency of developing countries to participate in value chains through deep specialization in tasks and production stages, according to two basic approaches⁹:

- The first approach: developing the traditional, historical competitive advantage of some developing countries and focusing on the most efficient production stages for them to enable them to maintain their international competitive position through summit chains such as: the Philippines, Brazil, Mexico, Vietnam, Argentina by specializing in the production of components of value chain products Agricultural and food crops, which have a historical competitive advantage.

- The second approach: the trend towards creating a new competitive advantage away from the traditional advantage of the state through participation in new sectors such as electronics chains, cars and services, which is the approach followed by China, Malaysia, India, Singapore and other countries, as previously explained.

- The third approach: It is the approach that is considered the most successful in developing countries, which involves integrating the two previous approaches by preserving the comparative advantage in the traditional sectors and developing them in line with global developments within the framework of the international segmentation of production processes in addition to participating in promising new sectors and benefiting from Participating in acquiring experiences and skills through contracting systems across value chains and specializing in low value-added activities locally, enabling them to grow and mature in the long term and move to higher centers in the value chain. Among the most prominent countries that have followed this approach: *China, India, Mexico, Morocco, Turkey, Malaysia, the Czech Republic, Ireland.*

We refer here to the distinction between the change in the pattern of international trade resulting from the change in the relative weights of the components of the various total international trade, and the change in the pattern of international trade resulting from the ability of production functions to be switched or reversible (which Menhas presented in his study as one of the explanations provided to solve the Leontief

paradox), which means that the function of Labor-intensive production can become after a certain level of relative prices a capital-intensive function, and thus the pattern of exports changes from labor-intensive goods to capital-intensive goods, and the structure of imports changes from capital-intensive goods to labor-intensive goods, which means that there is no clear pattern. The change in the foreign trade pattern of the country occurs through a change in the structure of the goods that are traded internationally (*Exports / Imports*) and resulting from many factors and economic policies. This is due to the fact that international trade is affected by the patterns of production and consumption in the country, in addition to the changes that the change in the state's mode of production means the transition from the integrated production system to the production of the entire final commodity within the state's borders to the international division of production. Furthermore, each country specializes in the stage of its production segmentation to produce a part or more of the final commodity, which affects the pattern of international trade in quantity and quality.

In terms of quantity, the volume of international trade increases; This is a result of the increasing transit of large shipments of parts and components across countries several times and their circulation through international trade, and in terms of type, the relative weight of parts and components trade is increasing at the expense of the traditional form of international trade in final goods.

In light of what we have presented previously regarding the strong relation between international trade & global value chains the following conclusions would be detected :

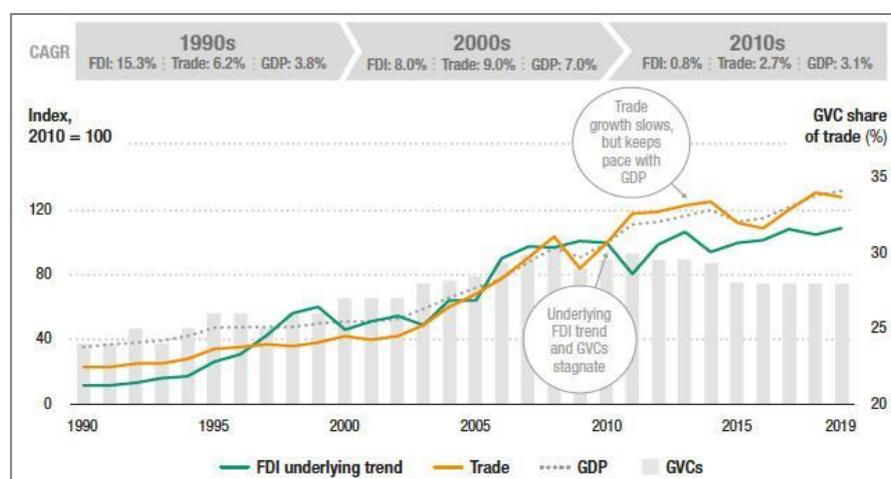
- The high participation of developing countries in many sectors through deep vertical specialization in the specialized production stages (one stage or several stages) - as we have previously explained - which reflects their ability to integrate into value chains and support their competitiveness in participation.

- The participation of some developing countries in value chains leads to a rise in the volume of their intermediate exports in the components of international trade, whether (goods or services through participation in international outsourcing services).

- The participation of developing countries in value chains also leads to an increase in the efficiency of human capital through participation in global production in accordance with the new production requirements and standards, which require the development of labor skills and raising the efficiency of performance, which is provided by participation through participation in the production systems of international institutions that lead to the transfer of expertise, skills and production technology to their suppliers in developing countries, in addition to increasing job opportunities in participating countries through specialized activities created by value chains that do not require the transfer of labor from one country to another, such as (outsourcing services).

- The high share of the participation of newly industrializing countries on a large percentage of trade in the inputs and components of many industries that were monopolized by the developed countries, which means that the economic geography of production has changed dramatically, as many of these countries were able to form specialized global production centers as previously mentioned. In the Asian region, in which China is considered the Factory of Asia due to the multiplicity of specialized tasks that

Figure 1: The participation of Developing Countries in the Global Value Chain 2020



Source: OECD, "DATA BASE", 2021.

Note: Trade is global exports of goods and services. GVC share of trade is proxied by the share of foreign value added in exports, based on the UNCTAD-Eora GVC database (Casella et al., 2019). The underlying FDI trend is an UNCTAD indicator capturing the long-term dynamics of FDI by netting out fluctuations driven by one-off transactions and volatile financial flows. (FDI, trade and GDP indexed, 2010 = 100; GVCs per cent)

As shown in the Figure above, the participation of developing countries in trade in intermediate goods and components and parts of products and services in the sectors referred to, and the ability of middle-high income countries to participate in industries with high added value such as electronics, cars and clothing, in addition to Low-middle-income countries, whose shift from specializing in primary commodities to participation in semi-processing industries, on the other hand, we note the decline in the participation of high-income countries in some sectors such as shoes, clothing and electronics, due to many developing countries seizing opportunities to integrate into the value chains of these Industries and the limited role of the developed countries in participating in their (upstream) activities through the processes of (design, innovation of trademarks and innovation of production systems).

As the previous figure shows the distribution of the share of trade in value-added over regions in the world as a percentage of GDP, which shows the development of participation in value-added chains for developing and developed countries. We note the high share of developing countries in them, especially the Asian region and China, which is the global center for the assembly of many chain products. In addition to the middle-income European countries and the rest of the world, which includes the countries of the Middle East, which refers to the phenomenon of geographic transformation of international trade through value chains, which allowed emerging and developing countries to participate in trade in value-added and benefit from it in improving the gross domestic product by increasing foreign trade, especially Exports, whether of low or high added value¹², as it is clear that countries specialized in aggregating products may add little value to foreign production inputs, but they generate a large proportion of national income through exporting value-added products according to the ability of the participating country to integrate in value chains. The global additive and by looking at the countries specialized in the assembly stage, we find that it does not import basic high-cost inputs, adds a relatively small value to these elements, and exports goods with a large foreign added value, and the ratios of exports with these value-added countries are often the lowest in the total exports. But even if it performs aggregation tasks with low value-added, its exports still generate a large part of its income - that is, the proportion of exports with a value-added to its total - as shown in the figure - is high and growing. Also, the ratio of exports to the value added of its Gross Domestic product with larger countries such as Japan, Germany and Spain.

The Role of Global value chains in The Economic Development

Global value chains at the international level contribute to the acceleration of the pace of developing countries catching up with developed countries in the levels of GDP and income, by increasing the convergence between developing and developed economies. At the local level, the local added value resulting from trade through global value chains can be extremely important given the size of local economies. In developing countries, value-added trade contributes about 30% to GDP on average, compared to an 18% contribution in developed countries. This indicates the positive correlation between participation in global value chains and per capita GDP growth rates. The per capita GDP growth rates in the economy whose participation in global value chains is increasing faster than others are two percentage points higher than the average. Moreover, participation in global value chains usually leads to job creation in developing countries and employment growth at a greater rate, even if participation in those chains is linked to the imported contents that make up exports.

Most developing countries are also increasingly participating in global value chains, whose share in global value-added trade has increased from 20% in 1990 to 30% in 2000¹³ and then to more than 40% today. However, many poorer developing countries are still striving to access GVCs in sectors other than primary resource exports. GVCs are usually coordinated by transnational corporations that have cross-border exchanges of inputs and outputs across the networks of their affiliates, contracting partners and independent suppliers and form value chains. Global coordinated transnational corporations 80% of world trade. Investment decisions made by international firms shape to a large extent the models of value-added trade in global value chains, so countries in which FDI is concentrated are able to participate more in global value chains and reap relatively higher domestic value added from trade.

Conclusion

Participation in the global added value series is a new framework for international trade that allows increasing interdependence between North and South countries, which leads to benefit for both parties. For developing countries to specialize in the specific stages, and developing countries also benefit from participating in the production of intermediate products for international companies according to specific specifications, which gives them many advantages related to modernizing their production structures and participating in new sectors, in addition to increasing the volume of intermediate exports and increasing the international trade movement through their regions.

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Celebrity endorsement and its impact on purchase intention of luxurious brands

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Celebrity Endorsement, Aspects of Celebrity Endorsement, Purchase Intention, and Luxurious brands

Abstract

Celebrity endorsement is a persuasion strategy in which customers identify with the person featured in an advertisement. Celebrities promote services and products in ways that serve to increase brand awareness and credibility. Celebrity endorsement boosts trust, familiarity, and awareness of a product by endorsing it and advertising it, all of which are important elements in a consumer's purchasing decision. When defining purchase intention, it is described as the intention to purchase or obtain a product or a service, thus reflecting the customer's desire to purchase a specific product from a specific brand. Meanwhile, a luxury brand and its products are associated with exclusivity, status, and superior quality.

This research aims to examine whether celebrity endorsement influences the purchase intention of luxury products or not. A survey was conducted and answered by a sample size of 145 respondents. Data were analyzed to test the hypothesis through regression analysis, factor analysis, and reliability tests.

Research findings indicate that celebrity endorsement does have an impact on the purchase intention of luxurious brands, especially when measuring the aspects of celebrity endorsement, which are celebrity credibility, celebrity expertise, product-celebrity match-up, physical attractiveness, and trustworthiness. However, the analysis showed that trustworthiness has the most significant impact, whereas celebrity expertise is partially significant.

1.1 Introduction

The use of celebrity endorsement in advertising has become a trend and is widely believed to be a recipe for success in corporate image and product promotion. As existing media is increasingly cluttered, the desire to stand out has become critical, and celebrities have proven to be an excellent strategy to ensure brand visibility (Gupta & Kishore, 2015).

For advertisers to be effective, they need to find a unique way to break the clutter of their ads, pay attention to their audience, and motivate them to engage in a higher-level processing of their ad messages. One of the popular strategies to creatively break through the clutter is to use celebrities to endorse your company's brand in advertising (Muda, et al., 2017).

In this study, we will be addressing the impact of celebrity endorsement on the customer's purchase intention of luxurious brands.

Celebrity endorsement is a type of marketing campaign that involves celebrities from movie stars, entertainers, and athletes (Sufian, 2021). Celebrity endorsements are now considered a ubiquitous feature of modern marketing. It has the capacity to increase audience attention, make the advertisement more memorable, credible, and appealing, and add glamour to the endorsed product (Gupta & Kishore, 2015).

Endorsement strategy has been officially used by companies in the nineteenth century and developed as a means of promotion due to radio (30's) and TV (50's) commercials making, then grew rapidly in the 70's when celebrity endorsers appeared in 15% of all advertising. Celebrity endorsement generates an immensity of purposeful distinctions within luxury brands that consequently gives rise to plummeting sales, generated by celebrity-motivated consumer's confidence. Meanwhile, a celebrity endorser has a flattering effect on consumer's perceptions of psychological ownership, brand trust and brand attitude (Khan & Zaman, 2021).

Celebrities have the ability to help commercials stand out from the surrounding clutter. (McCracken, 1989) defined celebrity endorser as "any individual who enjoys public recognition and who uses this recognition on behalf of a consumer good by appearing with it in an advertisement". (Kamins, 1989) defined a celebrity endorser as "an individual who is known to the public for his or her achievements in areas other than that of the product endorsed". While (Stafford, et al., 2003) gave a clear definition by defining a celebrity endorser as, "a famous person who uses public recognition to recommend or co-present with a product in an ad". Endorsements can have celebrities giving expert opinions, being a spokesperson for a product or being associated with a brand (Anand, 2019).

2.1 Celebrity Endorsement

A celebrity is considered a person who is well-known in the public spotlight and who leverages that fame to promote a product, business, or service. To advertise their products or brands, businesses use a variety of tactics. Advertisements on television, in newspapers, and on social networking sites are among them. However, celebrity endorsement, in which a well-known individual represents the brand, is a common promotion tactic. The utilization of a celebrity endorsement approach to differentiate a business and get a competitive edge is incredibly beneficial. Celebrities are regularly watched by people all over the world, implying that they are well known and famous, which aids in capturing people's attention. As a result, they have a significant impact on products, brands, or purchasing intentions. A company's creation and development of a brand can include celebrity endorsement. This strategy has allowed businesses to establish a link between their brand and a well-known figure, such as a celebrity (Kheder, 2018). An assertion by a celebrity or someone of authority that a product is good, hence certifying the thing as a must-have is also known as celebrity endorsement.

Celebrity endorsement as defined by (Nelson & Deborah, 2017) is a persuasion strategy in which customers identify with the person featured in an advertisement. Companies can most effectively use celebrity endorsement when the endorser's personality fits that of the brand or product. They also characterize the endorser as a person renowned for their accomplishments rather than their product category, which leads most advertisers to believe that celebrity endorsement can not only raise brand awareness but can also, make consumers feel comfortable about their brand or product.

2.2 Aspects of Celebrity Endorsement

One-reason celebrities have been employed for commercial endorsement, according to (Nelson & Deborah, 2017), is that their celebrity appeal lends fame, talent, credibility, and charisma to the product being sold. Advertisers have recruited celebrities who are well-known around the world to promote and support their products. While celebrity endorsers' charisma positively influences product users' purchasing decisions, manufacturers and sellers have long preferred to use celebrity endorsement to promote their goods and services since it helps the target demographic link the product with the endorser.

(Olaosebikan, 2020) Introduced the source credibility model, which is concerned with the amount of trustworthiness and knowledge of the source. Their research on the influence of source credibility on audience communication retention reveals that when communication is presented by a high-credibility source, it is regarded as more trustworthy, and when presented by a low-credibility source, it is perceived as less believable. In other words, if the source is regarded as extremely reputable, people will have a favorable opinion of the message. As a result, the celebrity's competence and integrity are critical to the endorsement's success. In this context, trustworthiness refers to the celebrity's level of honesty and integrity, while expertise refers to the celebrity's level of knowledge and experience.

2.2.1 Celebrity Credibility

An endorser's credibility is determined by his or her honesty, integrity, and trustworthiness. A high level of credibility may indicate the provider's favorable attributes, affect message consent by having a major impact on the receiver's degree of acceptance of the message, and improve customers' attitudes about a brand. If target consumers believe the celebrity is trustworthy and honest enough to persuade and gain their trust, they will become more attentive and avoid investigating and purchasing the endorsed brand's products (Nguyen, 2021).

In the opinion of consumers, a trustworthy celebrity endorser is usually an indicator of excellent quality. For example, the affiliation of top-tier sportsmen with a particular sports brand might be interpreted as a sign of the product's superior quality, resulting in a credible image (Sharma, 2015).

2.2.2 Celebrity Expertise

Expertise is defined as the degree to which a communicator is seen as a reliable source of information, with a focus on the knowledge, practice, or skills that an endorser could acquire to discreetly advertise the items. As a result, if a celebrity is more knowledgeable and experienced in the endorsed industry, he or she will earn customer trust, good recognition, and even purchase intent (Nguyen, 2021).

Expertise, according to (Tanjung & Hudrasyah, 2016), relates to the degree to which the endorser is seen to have the necessary knowledge, experience, or abilities to sell the product. It does not matter if the endorser has expertise or not, as long as consumers believe they have. Experience is strongly linked to purchasing, and product knowledge is the best indicator of an endorser's level of expertise. If the endorser knows more about the product, he or she will have a more favorable view of the brand. Celebrities are thought to be more knowledgeable than the hired spokesperson.

2.2.3 Product-Celebrity Match-Up

A corporation must choose the most appropriate celebrity for the brand or product being promoted, which is known as match-up, in order to create a successful celebrity endorsement and optimize the influence of celebrity endorsement. This is due to the fact that the celebrity will be promoting the goods. In essence, the celebrity's principles must align with the product or company him, or she is endorsing (Kheder, 2018).

2.2.4 Physical Attractiveness

A celebrity's physical appearance is a potent "weapon" for standing out from the crowd, attracting attention, and influencing audience perception and intention. Because consumers are primarily concerned with their look, a celebrity with a glamorous appearance is more likely to gain positive feedback and awareness from the public. In comparison to advertising with an unappealing theme, an attractive celebrity endorser would have a stronger influence on customer attitudes about the brand and its products (Nguyen, 2021). When customers believe they have anything in common with the endorser, they will find the endorsers appealing. Attractive endorsers have a better chance of changing people's minds. The buying intention is more likely to be influenced by perceived attractive endorsers. The appealing personalities in the advertisement lead to a more favorable opinion about the advertisement and a strong desire to purchase (Tanjung & Hudrasyah, 2016).

The celebrity's beauty also affects how effective their endorsement is. Celebrities who are attractive are shown to be more effective in recommending products or services than celebrities who are not. Attractiveness refers not only to a celebrity's physical beauty, but also to other qualities such as intelligence, personality traits, and lifestyles (Olaosebikan, 2020).

2.2.5 Trustworthiness

Consumers' level of trust in the validity of assertions expressed by the endorser is referred to as trustworthiness. It is critical to select endorsers that have a high level of credibility, honesty, and affinity, since this will strengthen the advertisement. Celebrities are thought to be more knowledgeable and trustworthy than ordinary people. However, it was said that a celebrity's attractiveness and trustworthiness have no bearing on the purchase (Tanjung & Hudrasyah, 2016).

According to (Nelson & Deborah, 2017), trustworthiness is the spectator's level of assurance and intensity of the spokesperson's identification as well as communication. Not dependable or dependable, dishonest/honest, unreliable/reliable, insincere/sincere, and untrustworthy/trustworthy are all terms used to describe trustworthiness. It has to do with the endorser's level of trust and acceptance of both the speaker and the message he or she is attempting to convey.

2.3 Purchase Intention

Purchase intention refers to a consumer's desire to buy a product or service because he or she believes that he or she needs it. In other words, purchase intention refers to the likelihood that a consumer will purchase a product or a service once more after evaluating it and determining if it is worth paying more money for repurchasing it (Madahi & Sukati, 2012).

Purchase intention refers to a consumer's desire to buy a brand or even do actions linked to purchasing, as evaluated by the likelihood of the consumer making a purchase (Rowlan, 2016).

Purchasing intention is determined by purchase tendency. Purchase intention can be used to anticipate when a purchase activity will occur (Kao, 2017).

2.4 Luxurious Brands

A luxury brand is a well-known brand that evokes feelings of exclusivity and one-of-a-kindness. It can evoke unique emotions and establish a high level of brand perceived quality, hence retaining client loyalty (Hamilton & Kheakao, 2019).

Luxury brands, according to (Keller, 2009), are one of the purest forms of branding, particularly because their image is a crucial part of the competitive advantage that generates tremendous profits and wealth for many businesses. According to Vigneron and Johnson, there is no clear definition of a luxury brand in comparison to a non-luxury brand. The perception of what is and is not a luxury brand, according to these authors, is influenced by the context and the people involved (for example, some goods could be a luxury or a necessity for the same person in different situations).

When (Nueno & Quelch, 1998) refer to luxury brands as those with a low ratio of functional utility to price and a high ratio of intangible and situational utility to price, they are referring to luxury brands. Traditional luxury brands, according to these authors, have the following characteristics: consistent delivery across the whole product range; a heritage of craftsmanship; an identifiable style or design; a limited manufacturing run; and a global reputation.

Today luxury is regarded as "commonplace" (De Barnier, et al., 2012), and while anyone can own a handbag or a pair of shoes, unique brands separate different groups of consumers (Han, et al., 2010). Consumers frequently associate luxury products with high prices (Kapferer & Bastien, 2012), and as a result, they pay a hefty price for them. Price, along with other factors such as exclusive distribution and product aesthetic qualities, is one of the most significant hurdles to luxury brand consumption (Kapferer, 1997).

Luxury brands, unlike basic brands, employ only the best materials (Kapferer, 1997) and the most delicate manufacturing processes, with human handwork playing a large part (Kapferer & Bastien, 2012). One of the main qualities that distinguish luxury brands from basic ones is their exceptionally excellent quality. It is expected that the quality of luxury goods would be one of the variables that contribute to positive brand recognition and the desire to buy personal luxury goods.

3.1 Conceptual Model

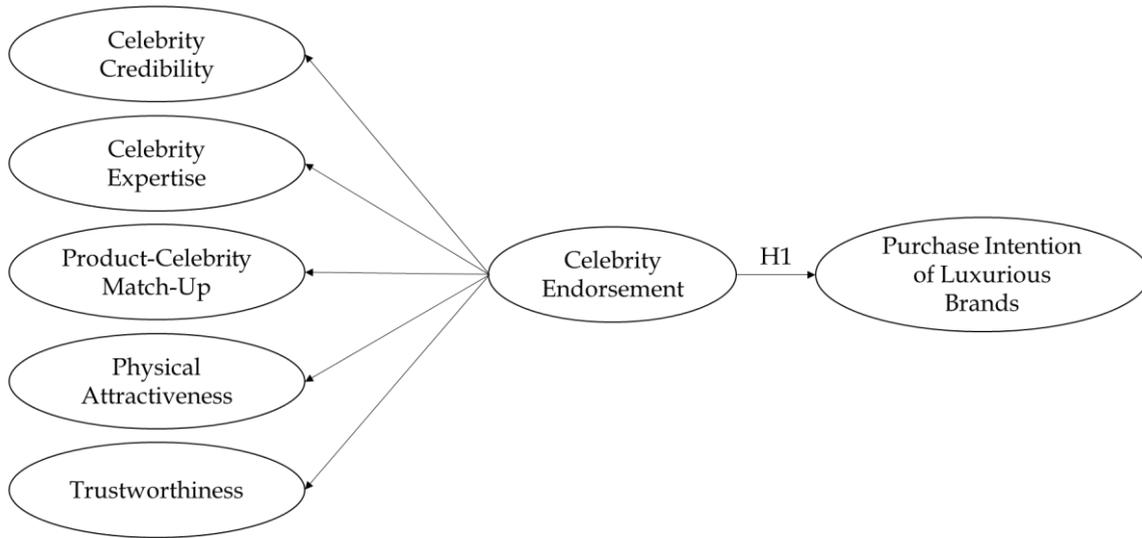


Figure 3.1: Conceptual Model
Source: Developed by the Researcher

3.2 Research Hypotheses

H1: Celebrity endorsement has a significant impact on the purchase intention of luxurious brands.

Emanates from hypothesis 1 the following sub-hypotheses:

H1_a: Celebrity Credibility has a significant impact on the purchase intention of luxurious brands.

H1_b: Celebrity Expertise has a significant impact on the purchase intention of luxurious brands.

H1_c: Product-celebrity Match-up has a significant impact on the purchase intention of luxurious brands.

H1_d: Physical Attractiveness has a significant impact on the purchase intention of luxurious brands.

H1_e: Trustworthiness has a significant impact on the purchase intention of luxurious brands.

3.3 Research Methodology

3.3.1 Positivism Research Philosophy

This research relied on the positivism philosophy. Positivism philosophy defines as a "language and logic philosophy that is compatible with an empiricist philosophy of science". The positivist approach holds that the study of customers and marketing phenomena should be scientific, in the sense that it should produce causal laws that allow for the prediction and explanation of marketing phenomena in the same way that the natural sciences do. In positivist studies, the researcher's role is limited to data collection and objective interpretation (Malhotra, 2022).

3.3.2 Quantitative Research

A research methodology that seeks to quantify the data and, typically, applies some form of statistical analysis (Malhotra, 2022). This research fits in the research quantitative methodology.

3.3.3 Causal Research

A type of conclusive research where the major objective is to obtain evidence regarding cause-and-effect (causal) relationships (Malhotra, 2022). This research adopts causal research.

3.3.4 Data Collection

The researcher applied both primary and secondary data to test the research hypotheses.

The primary data utilized in this study was collecting data from the sample or target population through a survey in order to evaluate hypotheses.

The secondary data utilized in this study was gathered by reviewing the literature and previous studies about celebrity endorsement and its aspects and the consumer's purchase intention. The researcher collected, investigated, summarized and compared data, theories, models and results from various sources of data such as textbooks, papers, management journals, electronic resources, and published reports.

3.3.5 Research Population and Sample Selection

In this research, non-probability sampling type was applied for the sample selection. Regarding the sampling technique, this research adopts the quota sampling technique.

3.4 Scale and Measurement

The sources of the survey constructs are summarized in the table below: "Measurement Scale: Five-point Likert scale with end anchors, 1 (Strongly Agree) and 5 (Strongly Disagree)".

Construct	Source
Celebrity Credibility	(Khan, et al., 2019)
Celebrity Expertise	(Wang & Scheinbaum, 2017)
Product-Celebrity Match-Up	(Khan, et al., 2019)
Physical Attractiveness	(Awasthi & Choraria, 2015)
Trustworthiness	(Wang & Scheinbaum, 2017)
Purchase Intention	(Awasthi & Choraria, 2015)

Table 3.1: Scale and Measurement
Source: Developed by the Researcher

4.1 Statistical Analysis

To test the hypotheses, simple linear regression was used. As shown in the following tables, the results supported the significant positive impact of celebrity endorsement on purchase intention of luxurious brands with R square equals 0.599 and adjusted R square equals 0.584 at a significant level of 99%.

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.774 ^a	.599	.584	.62425	.599	41.505	5	139	.000

Table 4.1: Statistical Analysis-Model Summary
Source: Developed by the Researcher from SPSS Output

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.870	5	16.174	41.505	.000 ^b
	Residual	54.167	139	.390		
	Total	135.038	144			

Table 4.2: Statistical Analysis-ANOVA
Source: Developed by the Researcher from SPSS Output

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.447	.300		-1.489	.139
	AVG.CR	.189	.075	.187	2.541	.012
	AVG.PR	.270	.086	.250	3.134	.002
	AVG.ATT	.304	.066	.281	4.591	.000
	AVG.EXP	-.053	.082	-.046	-.652	.515
	AVG.TR	.365	.084	.327	4.329	.000

Table 4.3: Statistical Analysis-Coefficients

Source: Developed by the Researcher from SPSS Output

4.2 Measuring the Impact of Celebrity Endorsement Aspects

4.2.1 The Impact of Aspect 1 (Celebrity Credibility)

This research assumed that celebrity credibility has a positive impact on purchase intention of luxurious brands. The results support H1a with ($\beta = .189$, t-test = 7.954, Sig. = .000) therefore H1a is accepted.

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.554 ^a	.307	.302	.80913	.307	63.263	1	143	.000

Table 4.4: Celebrity Credibility-Model Summary

Source: Developed by the Researcher from SPSS Output

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.418	1	41.418	63.263	.000 ^b
	Residual	93.620	143	.655		
	Total	135.038	144			

Table 4.5: Celebrity Credibility-ANOVA

Source: Developed by the Researcher from SPSS Output

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.622	.233		6.971	.000
	AVG.CR	.560	.070	.554	7.954	.000

Table 4.6: Celebrity Credibility-Coefficients

Source: Developed by the Researcher from SPSS Output

4.2.2 The Impact of Aspect 2 (Celebrity Expertise)

The study assumed that celebrity expertise has a positive significant relationship on purchase intention of luxurious brands. therefore, although celebrity expertise showed a positive significance H1B is subjected to be rejected since it has a very low significance level compared to the other four aspects with ($\beta = -.053$, t-test = 5.581, Sig. = .515) therefore H1b is rejected.

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.423 ^a	.179	.173	.88059	.179	31.143	1	143	.000

Table 4.7: Celebrity Expertise-Model Summary
Source: Developed by the Researcher from SPSS Output

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.150	1	24.150	31.143	.000 ^b
	Residual	110.888	143	.775		
	Total	135.038	144			

Table 4.8: Celebrity Expertise- ANOVA
Source: Developed by the Researcher from SPSS Output

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.464	.353		4.143	.000
	AVG.EXP	.493	.088	.423	5.581	.000

Table 4.9: Celebrity Expertise-Coefficients
Source: Developed by the Researcher from SPSS Output

4.2.3 The Impact of Aspect 3 (Product-Celebrity Match-Up)

This research assumed that product-celebrity match-up has a positive impact on purchase intention of luxurious brand. The results support H1c with ($\beta = .270$, t -test = 9.555, Sig. = .002) therefore H1c is accepted.

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.624 ^a	.390	.385	.75917	.390	91.299	1	143	.000

Table 4.10: Product-Celebrity Match-Up-Model Summary
Source: Developed by the Researcher from SPSS Output

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.620	1	52.620	91.299	.000 ^b
	Residual	82.418	143	.576		
	Total	135.038	144			

Table 4.11: Product-Celebrity Match-Up-ANOVA
Source: Developed by the Researcher from SPSS Output

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.203	.238		5.059	.000
	AVG.PR	.675	.071	.624	9.555	.000

Table 4.12: Product-Celebrity Match-Up-Coefficients
Source: Developed by the Researcher from SPSS Output

4.2.4 The Impact of Aspect 4 (Physical Attractiveness)

The study assumed that physical attractiveness has a positive significant relationship on purchase intention of luxurious brands. The results support H1d with ($\beta = .304$, t -test = 7.982, Sig. = .000) therefore H1d is accepted.

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.555 ^a	.308	.303	.80824	.308	63.715	1	143	.000

Table 4.13: Physical Attractiveness-Model Summary
Source: Developed by the Researcher from SPSS Output

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.622	1	41.622	63.715	.000 ^b
	Residual	93.415	143	.653		
	Total	135.038	144			

Table 4.14: Physical Attractiveness-ANOVA
Source: Developed by the Researcher from SPSS Output

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.155	.288		4.007	.000
	AVG.ATT	.600	.075	.555	7.982	.000

Table 4.15: Physical Attractiveness-Coefficients
Source: Developed by the Researcher from SPSS Output

4.2.5 The Impact of Aspect 5 (Trustworthiness)

Based on H1e assumed that trustworthiness has a significant impact on purchase intention of luxurious brands. The results support H1e with ($\beta = .365$, t -test = 9.453, Sig. = .000) therefore H1e is accepted.

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.620 ^a	.385	.380	.76233	.385	89.361	1	143	.000

Table 4.16: Trustworthiness–Model Summary

Source: Developed by the Researcher from SPSS Output

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.933	1	51.933	89.361	.000 ^b
	Residual	83.105	143	.581		
	Total	135.038	144			

Table 4.17: Trustworthiness–Model Summary

Source: Developed by the Researcher from SPSS Output

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.658	.296		2.222	.028
	AVG.TR	.692	.073	.620	9.453	.000

Table 4.18: Trustworthiness–Model Summary

Source: Developed by the Researcher from SPSS Output

5.1 Discussion

This paper contributes to the extant literature by two-folds. Firstly, it contributes to measure celebrity endorsement as a multidimensional construct, measures its overall impact on purchase intention of luxurious brands, and also measures the variation between each of the dimensions of celebrity endorsement that drive the purchase intention of luxurious brands. The second fold differentiates the impacts of each aspect on purchase intention of luxurious brands.

The celebrity endorsement hypothesis has been accepted and had a positive impact on purchase intention of luxurious brands. Which came consistent with the results of the study of “IMPACT OF celebrity endorsements on consumers’ purchase intention: A Study of Indian Consumers” by (Gupta & Kishore, 2015) however, this study was not applicable on luxurious brands.

Further, it was proved that celebrity credibility, product-celebrity match-up, physical attractiveness and trustworthiness of a celebrity endorser have a significant impact on purchase intention of luxurious brands, which came consistence with (Awasthi & Choraria, 2015), (Khan, et al., 2019) and (Wang & Scheinbaum, 2017) however, these studies was not applicable on luxurious brands.

Regarding celebrity expertise, its results came inconsistency with the study of “IMPACT OF CELEBRITY ENDORSEMENTS ON CONSUMERS’ PURCHASE INTENTION: A Study of Indian Consumers” by (Gupta & Kishore, 2015) which significantly impacts the purchase intention however, this study was not applicable on luxurious brands.

Finally, the results of this study show that celebrity endorsements can be a powerful tool for marketers because they have a significant positive impact on consumer’s purchase intentions.

6.1 Limitations

This study had time limitations as the data was gathered over a short period of time, it is recommended for future researchers to increase the duration length in the gathering and analysis, so there are more variations in data.

Moreover, this study was focused and limited to two product categories of luxurious brands, which are wristwatches, and perfumes, so future researchers may consider more or other categories in their future studies.

Additionally, this study did not categorize the respondents as wristwatches buyers and perfumes buyers, so this resulted in the lacked useful information that aids brand managers of either product category.

The sample population was also quite small-scale and limited to Egyptian customers, so the data cannot be generalized.

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The mediating role of operating performance on the association between BOD features and firm financial performance. An Applied Study on the Egyptian Stock Market

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Keywords

Operating performance, financial performance, BOD characteristics

Abstract

Purpose: This paper examines the influence of operating performance as a mediator variable on the relationships between the various characteristics of the Board of directors and firms' financial performance, as measured by return on average total assets and the ratio of Earning per ordinary share, for nonfinancial firms listed on the Egyptian stock market.

Methodology: A multiple regression analysis and path analysis are performed to explain the four models employed for a sample of (26) non-financial Egyptian firms from 2018 to 2021. Five principal hypotheses are examined, H_{01} : there is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the Board of Directors' characteristics on EPS. H_{02} : there is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the Board of Directors' characteristics on ROA. H_{03} : there is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the characteristics of the Board of Directors on ATO. H_{04} : there is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the characteristics of the Board of Directors on OPM. H_{05} : operational performance has no significant impact on the relationship between the Board of Directors' characteristics and firm financial performance measured by ROA and EPS.

Findings: Consistent with the majority of prior research, this study's findings indicate that Board of director characteristics have a positive, significant influence on firm financial performance during the study period. Additionally, BOD characteristics affect operating performance in a positive direction, particularly asset turnover. In addition, a path analysis reveals that operating performance acts as a positive mediator in this relationship.

Introduction

The separation of ownership and management has resulted in various arguments regarding the relationship between the principal and the agent, resulting in the well-known agency problem (Stewardship theory). In addition, the recent financial crisis has revealed weaknesses in corporate governance, the complexity of the corporate governance structures of certain companies, their lack of transparency, and their inability to both respond to the crisis and determine the organizational chain of responsibility adequately. The board of directors and its characteristics are essential elements of corporate governance that contribute to mitigating this issue.

For that reason, Numerous researchers investigate the relation between BOD treats and firm performance, but most of the focus only on measuring financial performance and ignoring operating performance, Accordingly, the purpose of this paper is to validate the function of operating performance as a mediator variable affected by BOD actions and therefore influencing the financial performance of the firm applying to non-financial listed companies in the Egyptian stock market.

Literature Review

Since the term "Corporate Governance" encompasses so many different aspects of business, including economics, finance, organization, and society, economists, analysts, and legal experts have not been able to

settle on a single, universal definition. This has far-reaching implications for the economy and the social fabric. However, the main definition of corporate governance is still being worked on by various professional and scientific groups. Institutional governance is the system by which shareholders and directors monitor the actions of corporate management and direct it in areas such as the finance department. Characteristics of the board of directors (BOD) can also affect several managerial facets of a company (Yaseen and Amarnah, 2013). Management, as defined by the International Monetary Fund, is the procedure by which businesses are guided and kept under watch. They also claim that excellent governance protects against poor management and contributes to the efficiency and effectiveness of businesses. In addition to increasing accountability and transparency to investors, it equips businesses with the resources necessary to address issues raised by other stakeholders. On the other hand, (Bouslimah, 2018)

Academics and researchers have pioneered the study of corporate governance in recent years and up to the present day. This is especially so now, because the Enron crisis marked a watershed moment for agricultural production everywhere. As a result, it is crucial for a business to establish its credibility, maintain operations, and attract as many investors as possible. This drives up the share price and helps slow the emergence of new competitors. Additionally, it raises the bar for corporate leadership. In addition to encouraging increased transparency on the part of businesses, this also boosts trust in the reliability of the financial reports those businesses publish. Institutional governance is the process by which an organization determines its mission and strategies for achieving that mission. It provides the Board of Directors with reasonable and suitable incentives to monitor and improve performance and the control process (Darmadi, 2013). Therefore, the BOD characteristic is a good tool that enables society to ensure that companies are well managed in a scientific and practical manner that leads to the protection of shareholders' funds, and the provision of fair and transparent information to all parties related to companies. Accordingly, it is considered a good tool for judging the performance of companies' boards of directors and holding them accountable. BOD characteristics aim to set principles and controls that provide the required transparency, and justice, and grant the right to the accountability of the company's management, thus achieving protection for shareholders and stakeholders, encouraging investment growth, increasing savings, and increasing profitability in order to create job opportunities.

Using different variables for BOD, such as the number of meetings, the board size, ownership concentration, executive non-executive members, and board diversity, many research papers have attempted to capture the relationship between BOD characteristics and firm performance for many years. In addition, financial performance is measured using a variety of metrics, including return on assets (ROA), return on equity (ROE), earnings per share (EPS), and the Tobin-Q ratio (Price/Book), among others. In the following section, some of these studies will be presented in reverse chronological order.

Alodat et al., (2021), As measures of institutional governance, the study evaluated the impact of the characteristics of the board of directors, the audit committee, and the ownership structure on financial performance. The research validated the application of Resource dependency theory and agency theory to firms with sound corporate governance. Between 2014 and 2018, 81 non-financial public shareholding companies were listed on the Amman Stock Exchange. In addition to the Board of Directors and the Audit Committee, companies utilized return on equity (ROE) and the Tobin Q ratio as performance indicators. In addition to institutional ownership percentage and foreign ownership as indices of institutional governance, we also examine foreign ownership. The study indicated that the board of directors and audit committee have a good and moral impact on the study's metrics. In addition, it was found that ownership structure characteristics (foreign and institutional ownership) have a positive and moral effect on the return on equity (ROE), but a negative effect on the Tobin-Q ratio.

Guluma (2021), This research examines the influence of BOD characteristics (CG) metrics on business performance, highlighting the significance of management behavior in the Chinese listed corporation. From 2010 to 2018, panel data of 11,634 samples of Chinese listed enterprises was utilized. The paper builds a Generalized Method of Moments estimate model for the system. As a measure of internal CG, this CG mechanism evaluates internal and external corporate governance, independent board, dual board leadership, and ownership concentration. In contrast, debt finance and product market rivalry are external CG indicators. Concerning managerial arrogance, it was measured by corporate earnings estimates, whereas the success of a company is measured by ROA and Tobin-Q ratio. This study revealed that

ownership concentration and product market competitiveness have a favorable correlation with ROA and Tobin-Q ratio measures of firm performance. Dual leadership has a negative association with to the bin-Q ratio, and debt financing has a negative impact on ROA and Tobin-Q ratio. In addition, the data demonstrated that managerial overconfidence negatively affects the association between board independence, dual leaders and ownership concentration and, business performance. In contrast, it moderates a positive effect of debt financing on firm performance as measured by Tobin's-Q and a negative effect of debt funding on operational firm performance. Therefore, this study plays an essential management function for policymakers seeking to improve BOD features in emerging market economies.

Almusattar and Teker (2020), This study explored the correlation between commercial bank performance and corporate governance elements. During the period covered by (Financial Times Stock Exchange 100) (FTSE 100) data businesses, a study was undertaken on commercial banks listed on the London Stock Exchange (LSE) in the United Kingdom (2010-2019). As of December 2020, the sample comprised the ten largest LSE-listed banks by market capitalization. Using a data panel method with descriptive and correlational analysis the seven primary variables used to measure BOD characteristics are the size of the board of directors, its independence, the percentage of foreign ownership, the bank's ownership structure, the Audit committee ladies' council, financial leverage, and its impact on the financial performance of a commercial bank in the Kingdom. Financial success is measured using the return on average assets (ROA) ratio, the return on equity (ROE) ratio and to the bin-Q ratio. The internal BOD characteristics mechanism (the Council of management) has a significant influence on the performance of banks as assessed by ROA, ROE, and Tobin-Q ratio.

Al Alimat (2019), the study revealed the impact of BOD characteristics on the quality of financial reports in Iraqi commercial banks. The study population consisted of eleven banks, and 146 questions were distributed in Iraq to branch and finance managers, internal auditors, and the board of directors. The study employed descriptive Analytical methodology and hypothesis testing; The results demonstrated that BOD characteristics have a significant impact on the quality of financial reports in Iraqi commercial banks. The study recommended that the bank's commitment to corporate governance policies and principles be followed up with concrete actions.

Al-Ajmaa (2019) examined the extent to which the legal regulation of government-owned commercial companies is met, or the so-called public sector companies in both the Republic of Yemen and the Kingdom of Jordan, in accordance with the Principles of Public Sector Governance of the Organization for Economic Co-operation and Development (OECD) and the United Nations Convention against Corruption. This is accomplished by elucidating what is meant by good governance in the public sector and its role in supporting the economic systems of countries, in addition to the government's efforts to combat corruption, in order to determine if they are sufficient or if there are deficiencies in the legislative or constitutional rules needed to bring about the necessary change. The researcher has reached the conclusion that the Arab region, including Yemen, has not benefited as much as developed nations from globalization in the areas of governance and fighting corruption. The study presented a set of recommendations for achieving a situation comparable to that of other nations practicing good governance, namely the need to enact the necessary legislation to develop viable integrated work systems. The subsequent issue should be committed to, implemented, and evaluated openly.

Oyedokun (2019), The purpose of this study was to examine the effect of BOD characteristics on the quality of financial reports in Nigeria. In addition, it demonstrates the influence of BOD characteristics on the timing of financial reports for listed banks in Nigeria. As a statistical technique, the research employed a descriptive and correlational analysis. The findings revealed a correlation between BOD characteristics and the quality of financial reports in Nigeria. The size of the board of directors has a negative correlation with the timing of financial reports. In addition, there is a negative correlation between the independence of the board of directors and the frequency of financial reports. It was discovered that executive managers and the timing of financial reports are positively correlated.

Martín and Herrero (2018), Tested the association between board composition and firm success, as measured by economic profitability and Tobin's Q ratio. Good Governance is, on the other hand, determined by the size, independence, and diversity of boards. Regarding diversity, an index was implemented that takes into account not only the gender but also the age and nationality of board members

in relation to their expertise, experience, and skills. From 2010 to 2015, a sample of non-financial corporations listed on the Spanish Stock Markets Interconnection System was selected in order to identify the criteria that influence the composition of the board of directors and its impact on the development of value in Spanish corporations. The analysis revealed a high level of compliance with the criteria of the Good Governance Code and recommends that the performance of the advising and monitoring functions be considered when determining the board composition. Moreover, there is a significant and negative correlation between board independence and autonomy. However, the outcomes depend on the employed performance metrics.

Balagobei (2018), The primary aim of this study is to determine the relationship between BOD characteristics measured by (the size of the board of directors, the independence of the board of directors, and the ownership structure) and the appropriate value of accounting information, given that its earnings per share (EPS) and Net Asset Value (NAV) are available (NAV). The hotel industry was selected as a sample for the study, which included twenty companies listed on the Colombo Financial Market throughout the specified time frame (2012-2016). The researcher used two regression models to test the hypotheses; the first model was connected to EPS and the second model was related to NAV. The study found a negative correlation between (the independence of the board of directors and the ownership structure) and the suitable value of accounting information, as well as a negative effect of financial leverage on the appropriate value of accounting information. Consequently, organizations adhering to the BOD characteristics standards are characterized by a high accounting information relevance.

Chen (2017), This study was designed to determine how the ownership structure and characteristics of the board of directors (BOD) influence the efficiency of Investments for China Stock Exchange-listed companies. The analysis relied on a sample of all financial businesses registered on the China Stock Exchange between 2004 and 2012, including 5,912 views of state-owned enterprises and 3,331 views of state-owned third-party companies. A model has been created for measuring the efficiency of investments and identifying instances of over- or under-investment. The least squares and linear regression analysis was utilized to assess the study's hypotheses. The results indicated that the ownership structure had a statistically significant detrimental influence on the investment efficiency of government-owned enterprises. Compared to other methods of institutional investment, incentive-based pay improves the efficiency of Investing, according to the study. Additionally, joint investment is more likely to have a favorable effect on investment efficiency.

Mahmoud (2017), This study examines the impact of BOD characteristics aspects on company financial performance measured by (ROA, ROE, and Debt Ratio) for non-financial companies included in the S&P Pan Arab Composite Index. 225 companies over 10 years, from 2006 to 2015, compiled from ORBIS, Reuters Eikon, DataStream, and annual and board reports in eleven Arab nations. The qualities of the board of directors are subdivided into board structure variables, such as board size, independence, duality separation, and diversity. Alternatively, ownership structure factors comprise Ownership concentration, Direct ownership, Institutional ownership, and foreign ownership. As a control variable, firm size, firm age, industry type, and auditor type are utilized. Utilizing ROA, ROE, and the debt ratio as a measure of firm leverage, the performance of a business is calculated. In the form of several models, regression analyses are illustrated. It was discovered that there is a significant positive association between board size, institutional ownership, audit style, and business performance, as evaluated by ROA. Additionally, a substantial negative correlation exists between dual ownership, foreign ownership, business size, and firm performance.

Abu Al-Riha (2016), The study revealed the influence of governance and transparency on bank performance evaluation. This objective was accomplished by measuring each variable's governance, transparency, and financial ratios, including capital adequacy, liquidity, leverage, return on assets and return on liabilities. The application of these indicators to a sample of private banks over two years, 2013-2014, led to the conclusion that governance and transparency influence the performance evaluation process for these banks, but transparency has a greater impact on performance than governance.

Othman and Bishops (2016), aimed to determine the impact of applying governance principles such as protecting shareholders' rights, Disclosure and transparency, the role of stakeholders, the responsibilities of the board of directors, and ensuring an effective institutional governance framework on the institutional

performance of a sample of (32) industrial companies listed on the Amman Stock Exchange at the end of 2013 using a sample of industrial companies. Based on the questionnaire designed to collect the necessary data on institutional governance and the extent of its application, it was determined that there is a statistical impact of applying the principles of governance on institutional performance and that BOD characteristics have an impact on the development and growth of companies and contribute to reducing risks and enhancing the effectiveness and efficiency of companies.

Al-Omari (2016) seeks to examine the effect of BOD characteristics (size of the board of directors, institutional ownership, independence of the board of directors, and presence of an audit committee) on the Tobin index (Tobin's Q) value of a company. The size of the company and return on assets were used as control variables in the study. All sixty Jordanian industrial firms listed on the Amman Stock Exchange at the end of 2012 were included in the study. To test hypotheses, the researchers utilized the ordinary least squares method. There is a statistically significant correlation between the presence of an audit committee and the value of a company, according to the findings of the study. In addition, there is a statistically significant positive correlation between the increase in the number of board members and the percentage of financial leverage and, the company's market value. In addition, there is no statistically significant correlation between Board independence, institutional ownership, company size, return on assets, and firm value.

Hidder et. al. (2015) The objective of this study was to determine the relationship between BOD procedures and financial performance for enterprises in the Islamic banking sector. This study's primary objective is to discover the many aspects of variables that influence the financial performance of the firm and the characteristics of the board of directors as measured by three indicators: board size, number of meetings, and audit committee size. The financial performance of the corporation is measured by three metrics: return on equity, return on assets, and earnings per share. The study found a positive correlation between BOD features and the financial performance of several industries.

Wahba, (2015), The emphasis of this study was either board composition or board leadership structure. From 2008 to 2010, a panel data analysis utilizing the generalized least squares method was performed on a sample of forty Egyptian publicly traded enterprises. It was revealed that increasing the proportion of non-executive members to the total number of directors has a negative impact on the financial performance of a company when the CEO and chairman are the same people. Additionally, BOD characteristic structures cannot operate in a vacuum. Second, a failure to appreciate the fundamental interdependency of BOD characteristics processes may result in claims that some BOD characteristics designs are accountable for bad financial performance. Thirdly, there is no single best structure for board governance, but there are preferred approaches.

Al-Daas, and Masoud, (2015), This study aimed to examine the impact of BOD characteristics on the performance of companies listed on the Amman Stock Exchange in order to determine the degree of difference in the level of application of the principles of institutional governance among selected companies and to demonstrate the relationship between the principles of BOD characteristics pertaining to Characteristics of the Board of Directors and the performance of the company. The researchers conducted a field study with a sample of 205 businesses registered on the Amman Stock Exchange in the four major economic sectors: services, industries, banking, and insurance.

Emile et. al., (2014), The subject of the study was the connection between BOD dimensions and firm performance in the Egyptian market. Both book and market measures are employed to evaluate success. Based on the dataset between 2004 and 2010. It was determined that board members have no effect on company performance, as neither board size, duality, nor independence has any bearing on the functioning of the firms that leads to high or low performance. Besides The external environment has a greater impact on Egyptian firms than the internal environment, and Egyptian investors are less protected.

Mohamed et. al., (2013), This paper evaluated the impact of BOD features on company performance, as BOD traits play a crucial role in cleaning corporate reporting and fostering public confidence in global financial markets. Using cross-sectional data from non-financial companies listed on the Egyptian Stock Exchange and a sample of 88 non-financial companies on the EGX100 index of listed companies on the Egyptian Stock Market, OLS regression analysis was used to examine the relationship between ownership structure, board structure, and audit function as control variables and firm performance. There was found

to be no correlation between ownership structure and company performance. Board independence has a significant impact on the firm's market performance, whereas both board independence and CEO duality impact the firm's book value performance. The impacts of business size and leverage on market performance and book value are distinct.

Al-Swidi et. al., (2012), Seeks to determine the association between board qualities and the performance of non-financial enterprises listed in Kuwait. A sample of 136 companies for the 2009 fiscal year was chosen, and SPSS 18.0 was used to conduct a multiple linear regression analysis. The company's size and leverage were used as control variables. In the meantime, variables such as CEO duality, COE tenure, audit committee size, the board size, and board composition served as indicators of business performance as evaluated by return on assets (ROA). The research uncovered the negative effects of CEO tenure and leverage on business performance, as the well as beneficial benefits of CEO duality and audit committee size on ROA.

Gois (2009), This study evaluated the relationship between the quality of financial reports and the features of Portuguese company boards of directors. This study utilized descriptive and correlational analysis on a sample of 39 out of 234 Portuguese stock exchange-listed firms. The results suggested that BOD features impact the quality of accounting data, whereas the independence of BOD characteristics has no effect on accounting information.

Based on the majority of previous studies, the different BOD characteristics have been found to have a positive effect on firm performance. However, the mediator roles of operating performance have not been tested, particularly on Egyptian companies, which gives this paper its novelty and opens a discussion about the relationship between operating performance and BOD traits, as well as their impacting role on financial performance in non-financial companies listed on the Egyptian stock market.

Research Problem

Nowadays, Societies have witnessed the important role of institutional governance within the Industrial sector as it is the main sector among the other sectors for its contribution to the economy and investors. Applying the rules of institutional BOD characteristics may be one of the criteria that can be used to find out the efficiency and effectiveness of the company's management in implementing the procedures and laws taken. Consequently, the primary objective of the research is to determine the impact of applying the rules of BOD characteristics measured by the board of directors' composition on the financial and operational performance of Egyptian listed companies in the Egyptian stock exchange, and whether compliance with these rules will lead to an improvement in financial and operational performance above the normal rate, or if it has no real impact. On this basis, the issue can be regarded as a major question.

Does operating performance have an impact on the relationship between the board of director features and firm financial performance in Egypt?

Research Objectives

The main aim of this study is to develop a theoretical and practical framework for Egyptian companies listed on the EGX in order to demonstrate the effect of operational performance on the relationship between BOD features and firm financial performance. This main objective can be extracted to sub-objectives such as:

To Recognize the influence of BOD traits on the financial success of Egyptian industrial enterprises, as measured by return on equity and earnings per share and reveal the impact of operating performance on this relationship.

To Contribute to supporting industrial sector company management in understanding the effects of complying with the norms of corporate governance.

Informing the official and professional authorities in Egypt about the impact of adhering to the rules of corporate governance on financial and operational performance, thereby enhancing their ability in the areas of planning, control, and decision-making rational decisions and enhancing their competitive position on the local and global markets.

Research Hypotheses

H₀₁: There is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the Board of Directors' characteristics on EPS

H₀₂: There is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the Board of Directors' characteristics on ROA

H₀₃: There is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the characteristics of the Board of Directors on ATO

H₀₄: There is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the characteristics of the Board of Directors on OPM

H₀₅: Operational performance has no significant impact on the relationship between the Board of Directors' characteristics and firm financial performance measured by ROA and EPS.

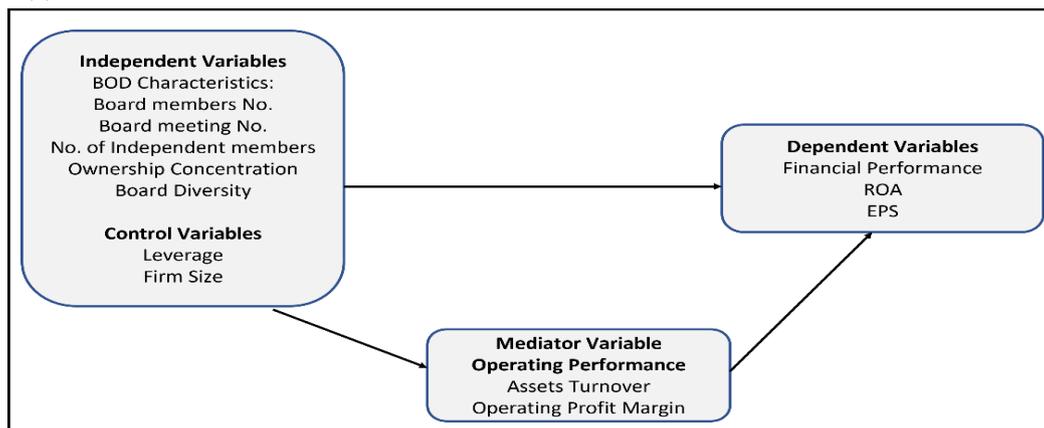
Research Variables: as shown in table No. (1) below

Table (1) Research Variable

Independent Variables	Variable	Measure
Board of Director Characteristics	Board Size	No. of board members
	No. of meeting	No. of meeting hold per year
	Independent of members	The ratio of No. of independent member to all board member
	Ownership concentration	Percentage of ownership of more than 5%
	Board Diversity	No. of women on the board to No. of board members
Control Variable	Leverage Ratio	The ratio of Assets to Equity
	Firm Size	Log total assets
Dependent Variable		
Operating Performance	Operating Profit Margin (OPM)	Operating Income to Net Sales
	Assets Turnover Ratio (AT)	Sales to Average Total Assets
Financial Performance	Return on Average Assets (ROA)	Net income to Average total Assets
	Earnings Per Share (EPS)	Net Income available to common Shareholder to Weighted Average No. of Shareholders

Source: Prepared by researchers
Research Model:

Figure (1) Research model



Source: Prepared by researchers

Methodology

The study employed a deductive methodology to test the data and analyze the results based on a population consisting of every Egyptian company listed on the Egypt Stock Exchange between 2018 and 2021, as well as a sample of 26 non-financial firms included in the EGX30 index. Then, the Residuals

Heteroskedasticity Test, Normality of Residuals test, Multi-Linear Correlation, Multicollinearity, Autocorrelation test, and multiple regression methods were utilized to determine the type of relationship between the study variables and the validity of the study's hypotheses.

Proposed Measurement Model

To evaluate the influence of Board of Directors Characteristics on Financial Performance, as revealed by the literature review, the following regression models are utilized to determine the nature of the relationship and quantify its magnitude:

$$EPS_{it} = a + \beta_1 Bsize_{it} + \beta_2 NoM_{it} + \beta_3 Indep_{it} + \beta_4 OwC_{it} + \beta_5 Bd_{it} + \beta_6 Size_{it} + \beta_7 AE_{it} + \varepsilon \quad (1)$$

$$ROA_{it} = a + \beta_1 Bsize_{it} + \beta_2 NoM_{it} + \beta_3 Indep_{it} + \beta_4 OwC_{it} + \beta_5 Bd_{it} + \beta_6 Size_{it} + \beta_7 AE_{it} + \varepsilon \quad (2)$$

$$ATO_{it} = a + \beta_1 Bsize_{it} + \beta_2 NoM_{it} + \beta_3 Indep_{it} + \beta_4 OwC_{it} + \beta_5 Bd_{it} + \beta_6 Size_{it} + \beta_7 AE_{it} + \varepsilon \quad (3)$$

$$OPM_{it} = a + \beta_1 Bsize_{it} + \beta_2 NoM_{it} + \beta_3 Indep_{it} + \beta_4 OwC_{it} + \beta_5 Bd_{it} + \beta_6 Size_{it} + \beta_7 AE_{it} + \varepsilon \quad (4)$$

Multicollinearity and skewness factors

To ensure that there is no strong correlation between independent variables (Multicollinearity), Variance Inflation Factor and Tolerance testing were performed on each independent variable.

Variance Inflation Factor (VIF) ≤ 10

Tolerance > 0.05

In addition, skewness factors are calculated to check whether the data follow the normal distribution, where the null hypothesis asserts that the data follow the Normal distribution if the skewness factor is less than 1, table (2) displays the results of these tests.

Table (2) Result of Multicollinearity and skewness factors

Variables	VIF	Tolerance	skewness
Bsize	1.674	0.756535	0.51641
NoM	1.893	0.885807	0.39324
Indep	1.207	0.620257	0.7345
OWC	1.870	0.83846	0.56387
Bd	1.294	0.604211	0.68252
Size	1.563	0.640371	0.39437
A/E	1.911	0.814391	0.93903

Source: outputs of Stata V15 program

The results of the previous table indicate to:

Variance Inflation Factor (VIF) between 1.207 and 1.911 this value indicates is not their correlation between a given explanatory variable and any other explanatory variables in the model.

Tolerance values for all variables were greater than (0.05) and ranged from (0.604211 - 0.885807), indicating that there was no high correlation between independent variables (Multicollinearity) that could lead to misleading results when analyzing regression,

The results of the skewness factor also indicate that the data follow the Normal distribution where the values of the coefficient range from (0.39324 to 0.93903) which is less than 1.

Table (3) Matrix Correlation between study variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Bsize	1.000									
(2) NoM	0.317	1.000								
(3) Indep	0.678	0.523	1.000							
(4) OwC	0.263	0.549	0.579	1.000						
(5) Bd	0.110	0.085	0.148	0.038	1.000					
(6) AE	-0.040	0.179	0.100	0.149	-0.404	1.000				
(7) Size	-0.100	0.061	-0.060	0.288	-0.184	-0.235	1.000			
(8) OPM	0.210	0.392	0.364	0.172	-0.090	0.167	-0.140	1.000		
(9) ATO	-0.179	-0.174	-0.329	-0.192	0.201	0.076	-0.290	-0.436	1.000	
(10) ROA	0.272	0.241	0.181	0.210	0.445	0.368	0.293	0.503	0.146	1.000
(11) EPS	0.143	0.323	0.167	0.119	0.226	0.545	0.103	0.439	0.124	0.446

Source: outputs of Stata V15 program

Correlation results show that there is a moderate relationship between the dependent variable ROA and EPS with the independent variables (Bsize - NoM - Indep - OwC - Bd - Size - A/E) where the values of the correlation factor ranged from (0.143 to 0.545).

Descriptive Statistics

Table (4) result of Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Bsize	100	9.37	4.039	0	19
NoM	100	9.01	6.263	0	24
Indep	100	.715	.25	0	.929
OwC	100	.61	.278	0	1
Bd	100	.091	.088	0	.339
EPS	100	1.095	3.263	-11.82	20.95
ROA	100	.074	.081	-.189	.349
AE	100	2.748	4.45	-15.195	26.725
Size	100	4.029	.566	2.988	5.142
OPM	100	.182	.163	-.108	.685
ATO	100	.788	.653	.111	3.495

Source: outputs of Stata V15 program

The previous table shows, the mean and standard deviation for all variables (Bsize 9.37/4.03, Nom 9.01/6.263, Indep 0.715/0.25, OwC 0.61/0.278, Bd 0.091/0.088, EPS 1.095/3.263, ROA 0.074/0.081, AE 2.748/4.45, Size 4.029/0.566, OPM 0.182/ 0.163, ATO 0.788/0.653).

Hypotheses Testing and Result Discussion

The study aims to examine the following Hypotheses.

H_{01} : there is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the Board Directors' characteristics on EPS

Before assessing the relationship to the proposed model, the Doornik-Hansen test and the Heteroskedasticity test are performed to examine the distribution of the Residual of the model and to ensure the validity of the estimated model variables for the study.

1-Doornik-Hansen test: Doornik-Hansen test is based on the normality of multiple variables, it is based on skewness testing and Kurtosis of study variable data it examines the characteristics of variables in terms of independence, so it is better than the Shapiro-Wilk test when examining the normal distribution for a proposed regression model, and in terms of testing assumptions:

H_0 : Residual follows a normal distribution if the p-value is greater than 0.05 ($P > 0.05$)

H_1 : Residual do not follow a normal distribution if the p-value is less than 0.05 ($P < = 0.05$)

2-Heteroskedasticity test: The importance of the test is that Heteroskedasticity Residual or Error Terms in the standard model are linked in one form or another to the Endogenous or Dependent Variable in the original model.

H_0 : Residual has no problem heteroskedasticity if the P-value > 0.05

H_1 : Residual has a Heteroskedasticity problem if P-value < 0.05

The following are the results of the Doornik-Hansen test to confirm the validity of multiple regression model variables, and the results of the Breusch Pagan Godfrey test for Heteroskedasticity testing

Figure (2) Results of study model examination tests

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Ho: Constant variance	
Variables: fitted values of EPS	
chi2(1)	= 27.82
Prob > chi2	= 0.5642
Test for multivariate normality	
Doornik-Hansen	chi2(2) = 51.078 Prob>chi2 = 0.28320

The previous figure shows that the Residual value of the Doornik-Hansen test was 0.28320, which is greater than 0.05, indicating that the regression model follows the normal distribution and accordingly accepts the null Hypothesis that "the Residual follows the normal distribution if the p-value for Residual is greater than 0.05", and we reject the alternative Hypotheses. The test results also show that the value of the Breusch Pagan Godfrey test was 0.5642, which is greater

than 0.05, indicating that the Residual does not have a Heteroskedasticity problem and therefore accepts null Hypotheses and rejects the alternative Hypotheses.

Linear regression

Table (5) Results of the estimated regression for Model 1

EPS	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Bsize	.05	.111	5.45	.004	.17	.27	**
NoM	.188	.064	2.92	.004	.06	.316	**
Indep	.506	2.203	4.23	.009	3.869	4.881	**
OwC	1.862	1.684	3.11	.002	5.206	1.482	**
Bd	1.094	4.335	4.25	.001	9.705	7.517	**
AE	.016	.09	3.18	.006	.162	.194	**
Size	.78	.685	2.14	.008	.581	2.14	**
Constant	-3.38	3.062	4.10	.002	9.461	2.7	**
Mean dependent var		1.095	SD dependent var			3.263	
R-squared		0.729	Number of obs			100	
F-test		7.944	Prob > F			0.001	
Akaike crit. (AIC)		521.547	Bayesian crit. (BIC)			542.389	

*** $p < .01$, ** $p < .05$, * $p < .1$

Source: outputs of Stata V15 program

Table (5) displays the results of the Multiple Regression Test, which was conducted to determine the effect of independent variable characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE) on EPS. The R-squared coefficient of determination is 0.729, which indicates that 72.9% of the variations in EPS are explained. Due to the change in characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE), the remainder of the ratio is attributable to factors that are not correlated with the variables under study.

The preceding table demonstrates that the model's F test value, which has reached 0.001, is significant at the 0.05 level, indicating that the proposed model has great convenience and interpretive power, thus rejecting the null hypothesis. HO1: There is no statistically significant influence at the level of significance (a 0.05) for the characteristics of the Board of Directors on EPS. In addition to accepting the Alternative Hypotheses

The coefficients of characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE) are significant at 5%, with p-values ranging from (0.001 to 0.009), confirming the significance of the impact of characteristics of the Board of Director's variables on EPS. Therefore, the following regression equation can be found:

$$\text{EPS}_{it} = -3.38 + 0.05 \text{Bsize}_{it} + 0.188 \text{NoM}_{it} + 0.506 \text{Indep}_{it} + 1.862 \text{OwC}_{it} + 1.094 \text{Bd}_{it} + 0.78 \text{Size}_{it} + 0.016 \text{AE}_{it} + \varepsilon \quad (1)$$

By studying the beta coefficient values for study model variables, we infer that Bsize, and EPS have a positive relationship. If Bsize increases by 100%, earnings per share will increase by 5%. In addition, there is an 18% significant connection between No. of board members and EPS, and a 50% positive relation

between independent members and the dependent variable. also, OwC by 1.8, and Board Diversity, Board Size, and leverage by 1.09, 0.78, and 0.016, respectively.

The second main Hypotheses H_{02} : *there is no statistically significant influence at level of significance ($\alpha \leq 0.05$) for the Board of Directors' characteristics on ROA*

The following are the results of the Doornik-Hansen test to confirm the validity of multiple regression model variables, and the results of the Breusch Pagan Godfrey test for Heteroskedasticity testing

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Ho: Constant variance	
Variables: fitted values of ROA	
chi2(1) =	1.07
Prob > chi2 =	0.3021
Test for multivariate normality	
Doornik-Hansen	chi2(2) = 5.078 Prob>chi2 = 0.6208

Figure (3) Results of study model examination tests

The previous figure shows that the Residual value of the Doornik-Hansen test was 0.6208, which is greater than 0.05, indicating that the regression model follows the normal distribution and accordingly accepts the null hypothesis that "the Residual follows the normal distribution if the p-value for Residual is greater than 0.05", and we reject the alternative Hypotheses. The test results also show that the value of the Breusch Pagan

Godfrey test was 0.3021, which is greater than 0.05, indicating that the Residual does not have a Heteroskedasticity problem and therefore accepts null Hypotheses and rejects the alternative Hypotheses.

Table (6) Results of the estimated regression for Model 2

Linear regression

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Bsize	.062	.003	3.83	.001	0	.01	**
NoM	.041	.002	2.35	.001	.001	.007	**
Indep	.034	.053	5.64	.005	.138	.071	**
OwC	.014	.04	7.36	.002	.094	.065	**
Bd	.06	.103	4.58	.004	.265	.146	**
AE	.001	.002	6.44	.006	.005	.003	**
Size	.043	.016	2.64	.001	.076	.011	**
Constant	.211	.073	2.88	.005	.066	.356	**
Mean dependent var		0.074	SD dependent var			0.081	
R-squared		0.696	Number of obs			100	
F-test		3.195	Prob > F			0.004	
Akaike crit. (AIC)		225.677	Bayesian crit. (BIC)			204.836	

*** $p < .01$, ** $p < .05$, * $p < .1$

Source: outputs of Stata V15 program

Table (6) displays the results of the Multiple Regression Test, which was conducted to determine the impact of independent variable characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE) on ROA.

The R-squared coefficient of determination is 0.696, indicating that 69.6% of the changes in ROA are accounted for. Due to the change in characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE), the remainder of the ratio is attributable to factors that are not correlated with the variables under study.

The preceding table demonstrates that the model's F test value, which has reached 0.004, is significant at the 0.05 level, indicating that the proposed model has great convenience and interpretive power, thus rejecting the null hypothesis. H_{02} : There is no statistically significant influence at the level of significance ($\alpha = 0.05$) for the characteristics of the Board of Directors on ROA. In addition to accepting the Alternative Hypotheses

The results of the regression test for the study's hypothesis indicate that the coefficients of characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE) are significant at 5%, with p-values ranging from (0.001 to 0.006), confirming the significance of the impact of characteristics of the Board of Director's variables on ROA. Consequently, the following regression

$$\text{equation can be drawn: } ROA_{it} = 0.211 + 0.06 \text{ Bsize}_{it} + 0.04 \text{ NoM}_{it} + 0.034 \text{ Indep}_{it} + 0.014 \text{ OwC}_{it} + 0.06 \text{ Bd}_{it} + 0.043 \text{ Size}_{it} + 0.011 \text{ AE}_{it} + \varepsilon \quad (1)$$

By examining the beta coefficient values for study model variables, we infer that Bsize, and ROA have a positive relationship. ROA grows by 6 percent if Bsize increases by 100 percent. Also, there is a positive impact between Nom and ROA, where it is affected by 4%, and Indep, where it affects the dependent variable by 3%; OwC is affected by 1%, and BD, Size, and AE are affected by 6%, 4%, and 0.1%, respectively.

The third main Hypotheses H_{03} : *there is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the characteristics of the Board of Directors on ATO*

Heteroskedasticity testing

Figure (4) Results of study model examination tests

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Ho: Constant variance	
Variables: fitted values of ATO	
chi2(1) =	7.81
Prob > chi2 =	0.3648
Test for multivariate normality	
Doornik-Hansen	chi2(2) = 5.669 Prob>chi2 = 0.4304

The preceding figure demonstrates that the Residual value of the Doornik-Hansen test was 0.4304, which is greater than 0.05, indicating that the regression model follows the normal distribution. Consequently, we accept the null hypothesis that "the Residual follows the normal distribution if the p-value for Residual is greater than 0.05" and reject the alternative Hypotheses.

The test results also indicate that the value of the Breusch Pagan Godfrey test was 0.3648, which is greater than 0.05, indicating that the Residual does not have a Heteroskedasticity problem; consequently, the null Hypotheses should be accepted, and the alternative Hypotheses should be rejected.

Table (7) Results of the estimated regression for Model 2

ATO	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Bsize	.019	.02	6.97	.006	.02	.059	**
NoM	.061	.012	5.48	.006	.029	.018	**
Indep	.446	.399	2.63	.000	2.238	.654	**
OwC	.382	.305	5.25	.003	.223	.987	
Bd	.18	.785	2.78	.007	.621	3.739	**
AE	.026	.016	2.62	.008	.006	.059	**
Size	.298	.124	3.41	.008	.545	.052	**
Constant	2.39	.554	4.31	.000	1.289	3.491	**
Mean dependent var		0.788	SD dependent var			0.653	
R-squared		0.687	Number of obs			100	
F-test		5.278	Prob > F			0.000	
Akaike crit. (AIC)		179.741	Bayesian crit. (BIC)			200.582	

*** $p < .01$, ** $p < .05$, * $p < .1$

Source: outputs of Stata V15 program

The previous table shows the results of the Multiple Regression Test, to determine the influence of independent variable characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE) on ATO.

The R-squared coefficient of determination is 0.687%, which indicates that 68.7% of the changes in ATO can be accounted for. Due to the change in characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE), the remainder of the ratio is attributable to factors that are not correlated with the variables under study.

The preceding table demonstrates that the model's F test value, which has reached 0.000, is significant at the 0.05 level, indicating that the proposed model has great convenience and interpretive power, thus rejecting the null hypothesis. "HO3: There is no statistically significant influence at the 0.05 level for the characteristics of the Board of Directors on ATO" In addition to accepting the Alternative Hypotheses

The results of the regression test for the study's hypothesis indicate that the coefficients of characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE)

are significant at the 5% level, with p-values ranging from (0.000 to 0.008), confirming the significant influence of characteristics of the Board of Director’s variables on ATO, and indicating that the coefficients of characteristics of the Board of Directors are Consequently, we can deduce the following regression equation:

$$ATO_{it} = 2.39 + 0.019 Bsize_{it} + 0.06 NoM_{it} + 0.446 Indep_{it} + 0.382 OwC_{it} + 0.18 Bd_{it} + 0.298 Size_{it} + 0.026 AE_{it} + \varepsilon \quad (3)$$

By examining the beta coefficient values for study model variables, we conclude that Bsize and ATO have a positive relationship. If Bsize increases by 100%, then the ATO will increase by 19%. Also, there is a positive influence between Nom and ATO, where it affects the dependent variable by 6%, and between Indep and the dependent variable by 44%, with OwC affected by 38% and BD, Size, and AE affected by 18%, 29%, and 2%, respectively.

The fourth main hypothesis: H_{O4} : there is no statistically significant influence at the level of significance ($\alpha \leq 0.05$) for the characteristics of the Board of Directors on OPM

Heteroskedasticity testing

Figure (5) Results of study model examination tests

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Ho: Constant variance	
Variables: fitted values of OPM	
chi2(1)	= 3.07
Prob > chi2	= 0.0983
Test for multivariate normality	
Doornik-Hansen	chi2(2) = 3.079 Prob>chi2 = 0.2144

The preceding figure demonstrates that the Residual value of the Doornik-Hansen test was 0.2144, which is greater than 0.05, indicating that the regression model follows the normal distribution. Consequently, we accept the null hypothesis that "the Residual follows the normal distribution if the p-value for Residual is greater than 0.05" and reject the alternative Hypothesis. The test results also indicate that

the value of the Breusch Pagan Godfrey test was 0.0983, which is greater than 0.05, indicating that the Residual does not have a Heteroskedasticity problem; consequently, the null Hypotheses should be accepted, and the alternative Hypotheses should be rejected.

OPM	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Bsize	.054	.005	5.75	.004	.014	.006	**
NoM	.069	.003	3.04	.003	.003	.015	**
Indep	.229	.102	2.25	.027	.027	.431	**
OwC	.083	.078	2.07	.006	.238	.071	**
Bd	.36	.2	6.80	.005	.757	.037	**
AE	.021	.004	4.23	.005	.009	.007	**
Size	.043	.032	3.37	.004	.106	.02	**
Constant	.233	.141	5.65	.002	.047	.514	**
Mean dependent var		0.182	SD dependent var			0.163	
R-squared		0.554	Number of obs			100	
F-test		4.473	Prob > F			0.000	
Akaike crit. (AIC)		93.791	Bayesian crit. (BIC)			72.950	

*** $p < .01$, ** $p < .05$, * $p < .1$

Table (8) Results of the estimated regression for Model 4

Source: outputs of Stata V15 program

The preceding table displays the results of the Multiple Regression Test to determine the impact of the Board of Directors' independent variable characteristics (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE) on OPM. The R-squared coefficient of determination is 0.554, which means that 55.4% of the changes in OPM. because of the change in characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE), the residue of the ratio is due to other factors that fall outside the correlation between the study variables.

The earlier table demonstrates that the F test value of the model, which has reached 0.000, is significant at 0.05, indicating that the proposed model has great convenience and interpretive power, thus rejecting the

null hypothesis "HO4: there is no statistically significant influence at the level of significance (a 0.05) for Board of Director’s characteristics on OPM." and accepted the Alternate Hypotheses

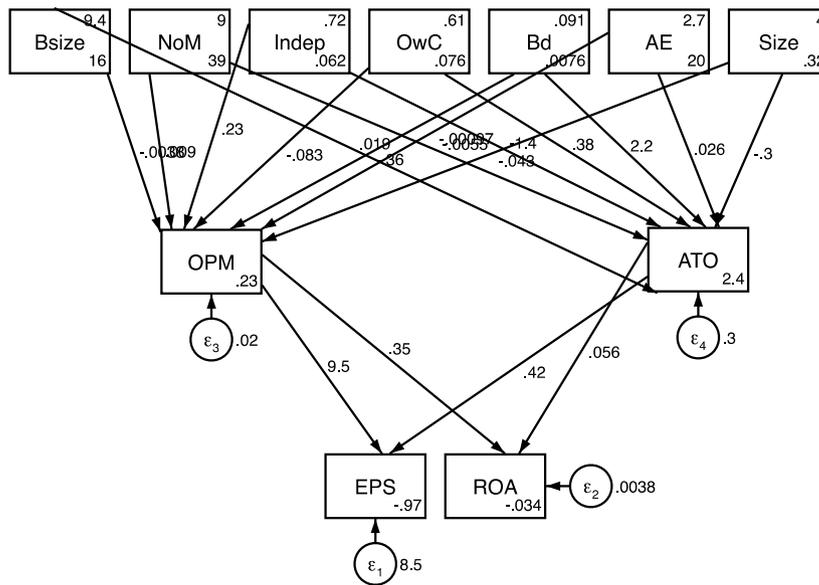
The results of the regression test for the hypothesis of the study show that the coefficient of characteristics of the Board of Directors (Bsize - NoM - Indep - OwC - Bd) and control variables (Size - AE) are significant at 5%, where p-value range from (0.002 to 0.020), confirming the significant influence of characteristics of the Board of Director’s variables on OPM, and We can therefore conclude the following regression equation:

$$OPM_{it} = 2.33 + 0.054 Bsize_{it} + 0.069 NoM_{it} + 0.299 Indep_{it} + 0.083 OwC_{it} + 0.36 Bd_{it} + 0.043 Size_{it} + 0.021 AE_{it} + \varepsilon \quad (4)$$

By looking at beta coefficient values for study model variables, we conclude, that there is a positive influence between Bsize and OPM. If Bsize increases by 100%, the OPM increases by 5%. Also, there is a positive influence between Nom and OPM Where it is affected by 6%, and Indep It affects the dependent variable by 29% also OwC is affected by 8%, and the BD, Size, and AE affected by 36%, 4%, 2%.

Path analysis is employed to test the fifth hypothesis. *H₀₅: operational performance has no significant impact on the relationship between the characteristics of the Board of Directors and Financial performance.* to test the Hypotheses of the study that operational performance Impact the relationship between characteristics of the Board of Directors and Financial performance. Path analysis was used to study this relationship.

Figure (6) Results of Path analysis



Where:

Endogenous variables

Observed: OPM ATO EPS ROA

Exogenous variables

Observed: Bsize NoM Indep OwC Bd AE Size

Fitting target model:

Iteration 0: log likelihood = -923.15043

Iteration 1: log likelihood = -923.15043

Structural equation model Number of obs = 100

Estimation method = ml

Log likelihood = -923.15043

Table (9) Results of path analysis

	OIM					
	Coef.	Std.Err.	z	P>z	[95%Conf.	Interval]
Structural						
EPS <-						
OPM	9.533	1.997	4.770	0.000	5.619	13.447
ATO	0.416	0.497	0.840	0.003	-0.559	1.390
_cons	-0.966	0.703	-1.370	0.009	-2.344	0.412
ROA <-						
OPM	0.348	0.042	8.250	0.000	0.266	0.431
ATO	0.056	0.011	5.320	0.000	0.035	0.077
_cons	-0.034	0.015	-2.270	0.023	-0.063	-0.005

LR test of model vs. saturated: $\chi^2(16) = 50.46$, Prob > $\chi^2 = 0.0000$

Source: outputs of Stata V15 program

Path analysis display that there is a positive impact relationship between the characteristics of the Board of Directors (Bsize – NoM – Indep – OwC – Bd) and control variables (Size – AE) and independent variables financial performance (EPS – ROA) through the Mediator variable operational performance (ATO – OPM). The Mediator variable operational performance (ATO – OPM) has a positive impact on EPS, by looking at beta coefficient values (0.41 – 9.53), Also, operational performance (ATO – OPM) has a positive impact on ROA (0.05 – 0.34). This means rejecting the null Hypotheses “ H_{05} : operational performance has no significant impact on the relationship between the characteristics of the Board of Directors and Financial performance”. and accepted the Alternative Hypotheses.

Conclusion

This paper attempts to explore the mediator role of operating performance on the relationship between BOD characteristics and firm financial performance, and finds a positive impact for operating performance measured by assets turnover and operating profit margin, indicating the importance of operating performance in recognizing highly efficient financial performance in addition to the substantial role of BOD characteristics in influencing operating dec. Path analysis demonstrates that the characteristics of the BOD reveal the significant role of diversity (women's participation) in influencing financial decisions directly on EPS and indirectly on ROA via operational decisions (asset turnover). While ownership concentration has a significant direct effect on earnings per share (EPS) but a small effect on return on assets (ROA), which may be due to the fact that ownership concentration influences the board of directors' (BOD) financial decisions related to owners' interests and not those of all stakeholders, the number of board meetings has no significant direct or indirect effect on financial performance, indicating that the quality of the board's decisions is not significantly affected by the number of board meetings. The majority of the paper's findings align with those of previous studies (Alodat et al., (2021), Guluma, (2021), Al Alimat (2019), Martín and Herrero (2018), Mahmoud (2017), Al-Omari (2016), Al-Daas, and Masoud (2015)).

Recommendations

Shareholders should emphasize BOD characteristics such as increasing women's participation in Egyptian BOD firms and applying corporate governance principles in the selection of board members; however, there is no need to increase the number of board members to ensure decision quality. The characteristics of the board and its financial performance should be maintained and fostered. This is based on the discovery that board characteristics have a substantial positive impact on financial performance. The positive association between Board gender diversity and financial performance suggests that companies with a greater gender balance are more likely to have superior operating and financial performance. Similarly, there is a strong correlation between board meeting frequency and financial performance.

Additional studies should be conducted over a longer time frame and include various board characteristics, such as education level or professional certifications. Accordingly, using more operational measures, especially in service-providing businesses.

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Eco-friendly initiatives and corporate reputation: the mediating effect of corporate social responsibility

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Keywords

Green/eco-friendly activities (initiatives), corporate reputation, corporate social responsibility, hotel/hospitality industry, sustainability

Abstract

In contemporary global competition, businesses have been under growing pressure from various stakeholders to manage rare resources and investigate the environmental impact of their actions. The need for sustainable development and green marketing has gained significant traction because of heightened public awareness of several environmental issues. The goal of sustainability is depicted as a long-term process that requires reconciling environmental concerns with social and economic ones. Green marketing is becoming increasingly popular as a means for companies to demonstrate their commitment to corporate social responsibility while gaining a competitive advantage in the marketplace and improving their corporate reputation. This research investigates the effect of green eco-friendly initiatives on corporate reputation. In addition, it examines the effect of corporate social responsibility as a mediator between the green activities implemented by the hotels and their corporate reputation. The researcher selected the Green Star hotels in the Red Sea in Egypt. Data was gathered through online self-administered questionnaires from a sample of 384 hotel guests. Statistical analysis was undertaken to examine the collected data using the proper statistical techniques and tests. Results revealed that green/eco-friendly activities significantly positively affect a hotel's corporate reputation.

Furthermore, corporate social responsibility mediates the relationship between green/eco-friendly activities and corporate reputation. The results revealed that green/eco-friendly activities have a significant positive indirect effect on corporate reputation in the presence of corporate social responsibility. Besides, the results also demonstrate that eco-friendly and CSR activities may benefit developing and emerging economies. Research findings were discussed to reflect the researcher's interpretation and perception of the outcomes. The research provides hotel marketers with practical implications for using eco-friendly and CSR initiatives.

1. Introduction

During the past few decades, firms have faced increasing pressure from various stakeholders to examine the environmental effects of their activities (Abbas & Sağsan, 2019; Abbas, 2020). Due to the increased public awareness about many environmental problems, such as scarce resources, climate change, air, soil, and water pollution, the need for sustainable development and green marketing has gained considerable traction (Pathak, 2016). The ultimate objective of sustainability is presented as a long-term process that involves balancing environmental concerns with social and economic ones. To remain viable in the long term, companies are under increased pressure to meet their social and environmental responsibilities and to adapt their business operations and practices to reflect this (Saadatian et al., 2012); (Punitha & Rasdi, 2013). Thus, the green marketing concept has emerged and been incorporated into the core operations of many firms worldwide. More and more organisations are using green marketing to perform corporate social responsibility (CSR) to achieve a competitive advantage and enhance their corporate reputation (Punitha & Rasdi, 2013).

Thus, "green marketing" refers to a holistic marketing approach in which the creation, marketing, consumption, and disposal of products and services are environmentally friendly (Viridi & Gill, 2016). As a result of government restrictions and other factors, most businesses worldwide have incorporated environmental considerations into their corporate strategies (Pathak, 2016). Moreover, customers have grown more environmentally conscious, favouring eco-friendly products, and perceiving socially

responsible buying behaviour as more appropriate. Accordingly, green marketing initiatives include all businesses' activities to create, differentiate, innovate, and sell products to satisfy customer needs and desires without harming the environment. Therefore, most industries face the challenge of being more environmentally friendly (Widyastuti et al., 2019).

As one of the services industries, travel and tourism contributed around 389 billion Egyptian pounds to the country's overall gross domestic product (GDP) in 2018, making it one of Egypt's most critical economic spheres. It also employs 1.25 million people across the country, making it one of the largest employers in the country (Galal, Nov 22, 2021). By 2028, it was anticipated to have contributed roughly 601 billion EGP to the Egyptian economy (Galal, Apr 27, 2022). The hotel industry, a part of the travel and tourism industry, consumes massive amounts of energy, water, and non-durable materials and causes more significant environmental harm than other service categories (Fatma et al., 2018; Punitha & Rasdi, 2013). Because of these environmental concerns, many hotels worldwide have introduced a variety of green activities into their everyday operations (Aragon-Correa et al., 2015; Pathak, 2016) and have reaped these benefits. In the hospitality sector, implementing and communicating green practices influences the corporate reputation positively and, thus, the consumer's intention to visit hotels (Chen et al., 2014; Gao and Mattila, 2014; Kim et al., 2013). In addition, it helps the hotel achieve a competitive advantage over its rivals (Chen & Tung, 2014; Gao & Mattila, 2014; Pathak, 2016).

Green marketing and eco-friendly activities are becoming more popular as a strategic endeavour in hospitality. According to Agrawal et al. (2015), corporate reputation is considered a valuable intangible asset that can hardly be imitated. A good corporate reputation boosts a long-lasting relationship with its customers and thus offers the company a competitive and sustainable advantage. Therefore, CSR initiatives may be used to convey a positive image to the public and stakeholders (Nguyen & Nguyen, 2020; Pathak, 2016).

Companies can reduce their environmental impact, increase their long-term economic and social well-being, and create value for all stakeholders by implementing CSR initiatives (CurrásPérez et al., 2018; Boccia & Sarnacchiaro, 2018). Society will oppose a business that disregards social, economic, and environmental considerations. Therefore, the application of CSR has several advantages for the firm, particularly in maintaining and enhancing its brand image. A company's reputation would be harmed if it produced environmentally irresponsible items, degraded the environment, or did not fully respect the rights of its customers (Widyastuti et al., 2019). Today's hotel guests are increasingly knowledgeable about CSR practices (Fatma et al., 2016), and socially responsible practices influence their hotel selection. By indulging in sustainable development initiatives, hotels strive to promote and implement energy savings, preservation, and recycling while simultaneously offering hotel consumers a sustainable, pure, and safe product. Thus, it is crucial to understand how hotels contribute to the environment. As the scope and level of CSR efforts differ by industry, this research examines how adopting different environmentally friendly business strategies may improve the hotels' corporate reputation through implementing corporate social responsibility initiatives (Fatma et al., 2018).

2. Literature review

2.1. Green marketing

The concept of green marketing has seen several changes since its inception, and as per Peattie's (2001) perspective, it has gone through three phases. "Ecological" green marketing was the first phase, where all marketing actions were geared toward solving environmental issues and providing solutions. Next came "environmental" green marketing, where the emphasis was placed on developing new clean technology goods to address pollution and waste challenges. Thirdly, "sustainable" green marketing was implemented and gained popularity during the late 1990s and the beginning of the new millennium (Chowdhury & Dasani, 2021).

In 1969, Lazer was the first to propose green marketing as a social facet of marketing strategy. Some other terms for green marketing include "eco-marketing," "ecological marketing," "environmental marketing," "green product marketing," and "sustainable marketing" (Polonsky, 1994). From Kotler and Armstrong's (2009) point of view, customers and companies may benefit from green marketing by meeting their current requirements while simultaneously conserving and expanding their potential to satisfy the

needs of future generations. In addition to satisfying customer needs, green marketing considers the environment and promotes corporate social responsibility (Nguyen & Nguyen, 2020). According to the American Marketing Association (AMA), "green marketing" is a marketing strategy for items that are perceived to be environmentally friendly. It delivers eco-friendly, sustainable items, production methods, packaging changes, and product alterations in marketing promotions and ethical business decisions. By utilising the best ingredients available from limited resources, green marketing ethics help to reduce negative environmental consequences and delight customers (Widyastuti et al., 2019).

Faster economic growth; mass production of goods using cutting-edge technology; an increasingly comfortable and deluxe lifestyle; intense competition; the adoption of harmful marketing tactics and techniques to attract customers; overstatement in advertising; the rise of multinational corporations; deregulation and globalisation; and other issues have resulted from the expansion of marketing activities. All of them have put people's well-being and ecological equilibrium in jeopardy. Economic growth threatens the peaceful way of life of people on Earth. Large factories are now the source of a variety of pollutants. Many products' development, use, and eventual disposal have harmed the environment. With increasing awareness about many environmental concerns, such as global warming, inorganic solid waste, and the harmful impact of pollutants, marketers and consumers are becoming more sensitive to the need to convert to green products and services.

Green marketing, therefore, is a holistic concept that aims to safeguard consumers' well-being and the natural environment by producing, consuming, and disposing of environmentally responsible products and services (Viridi & Gill, 2016). To go green, Yuan and Xiang (2018) argue that organisations primarily emphasise changing operations into eco-friendly activities by introducing fundamental changes in the product or service's operational procedures. Furthermore, Ko et al. (2013) see that green/eco-friendly initiatives effectively bolster corporate reputation as they reflect a favourable image of the company and demonstrate commitment to society (Pathak, 2016; Supriyatno & Handayani, 2018). Accordingly, companies have a great chance of acquiring more customers (Abbas, 2020).

2.2. Corporate reputation

Corporate reputation (CR) is a value assessment regarding a company's attributes (Gray & Balmer, 1998). As defined by Fombrun (2005) and Sánchez-Torné et al. (2020), it is a collective depiction of a firm's past activities and prospects that reflects how important stakeholders perceive and appraise the company's endeavours and its capacity to achieve valued results. Corporate reputation is a distinctive intangible asset that is difficult to replicate (Agrawal et al., 2015; Nguyen & Nguyen, 2020) and represents a vital part of a company's identity (Bati, 2016). Moreover, Walsh and Beatty (2007) assert that it can give the company an edge in the market.

Kim and Kim (2017) found that a company's level of corporate reputation (CR) positively affects how loyal and happy its customers, employees, suppliers, and shareholders are. It also influences customers' trust online (Casalo et al., 2007), lowers brand uncertainty in emerging markets (Heinberg et al., 2018), and boosts buy intent (Jung & Seock, 2016). A high CR minimises problems caused by asymmetric information when targeting a new market (Sánchez-Torné et al., 2020). Customers' attitudes and views of organisations are shaped by their reputation, which creates incentives for purchase and brand growth. As a result, businesses place a premium on activities that enhance their reputation (Arseculeratne & Yazdanifard, 2014; Nguyen & Nguyen, 2020). The company's reputation will reveal how well it meets stakeholder expectations (Khan, 2015).

2.3. Corporate social responsibility (CSR)

CSR conceptualization

As environmental conservation and sustainable development promote worldwide trends, businesses become compelled to act responsibly toward society and the environment (Nguyen & Nguyen, 2020). The evolution of the contemporary understanding of corporate social responsibility (CSR) as a conceptual framework can be traced back to the 1930s, when the dispute regarding the social duties of the business sector first started (Agudelo & Davídsdóttir, 2019). However, the most dominant and decisive definition of CSR is Carroll's (1979). He stated that the company's social responsibility involves four essential

responsibilities, namely the economic, legal, and ethical, as well as the discretionary (also known afterwards as philanthropic) responsibilities that society places on organisations at a given time (Eshra & Beshir, 2017; Nguyen & Nguyen, 2020). In 1991, Carroll put these four responsibilities into the shape of a pyramid, which has become the most popular and widely used corporate social responsibility model in the academic world (Punitha & Rasdi, 2013).

In the 1980s, the CSR concept became more business-oriented (Yang & Aguo, 2014). Even though companies feel committed to the community, they must think about their stakeholders directly or indirectly associated with them (Maignan et al., 2005). Stakeholders' contributions to the provision of resources are critical to the long-term viability of a business. According to the stakeholder management theory established by Freeman (1984), stakeholders are the primary targets of corporate social responsibility (CSR). It is a collection of economic, social, and environmental actions that the corporation conducts to meet its commitments to each of these groups (Carroll, 2006; Khan et al., 2015; El Akremi et al., 2018). Moreover, Pratihari and Uzma (2018) believe that CSR actions should help all stakeholders accomplish their own goals and develop strong emotional relationships with them. According to Barnett (2007) and Moliner et al. (2020), CSR can generate value for the company.

The "sustainable paradigm," coined at the same time as this theory, emphasises the importance of addressing current needs without compromising the well-being of future generations (Bruno & Sarabia-Sanchez, 2019). According to the idea of sustainable development, Panwar et al. (2006), White (2009), and Eldin & Alhassan (2023) defined CSR as a multidimensional, proactive, strategic, synergistic, and business-level philosophy. Companies must focus on the triple bottom line: economic development, environmental conservation, and social improvements. Companies can create value for all stakeholders through corporate social responsibility (Sarnacchiaro, 2017). The researcher defines corporate social responsibility as a commitment that helps companies reduce or eliminate adverse impacts and improve long-term economic and social well-being. It is done by voluntarily integrating social and environmental concerns into core business strategies and operations in its interaction with stakeholders while upholding ethical values and legal obligations.

Dimensions of hotel CSR

Social activities are essential to numerous desirable outcomes in the services sector, notably the hotel sector (Singal & Rhou, 2017). Therefore, hotel CSR has been defined as a hotel's approach to managing its business practices and accepting responsibility for its impact on society (Wong & Kim, 2020). Moreover, hospitality organisations employ CSR initiatives as a business strategy to gain a competitive advantage and develop long-term customer relationships (Fatma et al., 2016). Even though CSR's purpose and scope are a point of debate, past studies have identified its core domains. For example, in 1991, Carroll offered the CSR pyramid with its four main dimensions, namely, economic, legal, ethical, and discretionary responsibilities. However, this proposed hierarchy of CSR layers was produced in a developed country's context. Accordingly, Visser (2008) reconstructed Carroll's model to adapt it to the developing country's context. Considering these four main factors, a socially responsible company should try to make more money, do the right thing, follow the law, and be a good corporate citizen.

The hotel industry is distinguished by its intangibility, perishability, and inseparability of products and services. In the field of hotel CSR research, Carroll's model is by far the most popular and commonly utilised option (Wong & Kim, 2020). Even though Carroll (1991) regarded environmentalism as an ethical concern, it was argued that the environmental dimension should be considered an individual domain due to its growing influence and awareness. Therefore, Wong and Kim (2020) suggested a hotel CSR construct by adding the environmental domain to the four-dimensional CSR framework of Carroll (1991) and Visser (2008). This result is consistent with the studies of Dahlsrud in 2008 and Bianchi et al. in 2019. In 2016, Masoud integrated Carroll's and Visser's models to develop the CSR's International Pyramid model with the main economic, glocal, legal/ethical, and philanthropic domains.

The financial/economic domain is essential to a hotel's survival and long-term viability and its ability to attract investors and owners willing to allocate a portion of their money to various social responsibility programs (Dahlsrud, 2008; Wong & Kim, 2020). Owners and shareholders have a right to expect a profit from firms. At the same time, they contribute to the economy by creating employment and delivering goods

and services that may be profitably sold (Visser, 2008; Punitha & Rasdi, 2013; Eshra & Beshir, 2017) but also at reasonable prices to fulfil the needs of society (Rahim et al., 2011). A competitive advantage is gained through finding more effective ways to run the business and developing new products and services that will help the company grow its income (Punitha & Rasdi, 2013).

The legal domain refers to CSR's legal responsibilities, such as adhering to laws, rules, and legal requirements (Wong & Kim, 2020). Corporations are expected to operate within the framework of rules and regulations to comply with society's and stakeholders' expectations. In addition, a successful business should be known for meeting its legal commitments. Carroll & Shabana (2010) explained that consumers expect that enterprises will satisfy the legal requirements for product safety, quality, and correct information. The company's performance will suffer if these requirements are not met (Eshra & Beshir, 2017). The government plays an essential role in attending to and protecting the people's interests. Established legislation can also serve as a tool to instruct stakeholders about proper behaviour without the need to compromise (Punitha & Rasdi, 2013).

Ethical obligation covers those behaviours and practices that are required or banned by society that go beyond the boundaries of legal responsibilities in terms of fairness and justice (Rahim et al., 2011). It may include preserving the environment for future generations, respecting civil rights, and embracing socially accepted moral norms or values. The stakeholders' moral rights, such as consumers, workers, and shareholders, are at the heart of ethical responsibility reflected in the norms and expectations (Punitha & Rasdi, 2013). Rahim et al. (2011) confirmed that consumers expect firms to conduct their operations ethically and are even prepared to pay more for items produced by ethical companies. The consistency with which a firm promotes morale and ethical standards may be used to assess business performance; when a firm practices solid corporate citizenship, its operations are trusted. The balance between economic, legal, and ethical obligations is crucial (Eshra & Beshir, 2017). Punitha and Rasdi (2013) agree that since enterprises profit from the public, they must conduct themselves ethically and consider society's well-being. This gives them a competitive advantage to create a favourable image in society and attain wealth.

Corporate social/philanthropy is expected by society, and hotels are encouraged to donate their resources and time to charitable causes such as the arts, education, and communities (Wong & Kim, 2020). As Carroll (1991) argues, managers and employees should engage in community service and philanthropic activities that improve the quality of life in their local communities. Philanthropy is the most optional and discretionary aspect of corporate responsibility and has not always been related to earnings or the firm's ethical culture. However, it may aid in creating and maintaining a company's image or reputation, enhance its long-term competitiveness in the market, and increase staff loyalty and customer satisfaction (Rahim et al., 2011). As a result, philanthropic actions are mutually beneficial for businesses and the communities in which they operate (Eshra & Beshir, 2017).

The environmental aspect of corporate social responsibility is concerned with the organisation's environmental and natural resource stewardship (D'Acunto et al., 2019). It focuses on the preservation of a healthy environment. Sustainability in environmental protection displays an organisation's duty toward the planet. Among other things, this manifests in avoiding contamination of water, soil, and air. In addition to using appropriate materials and chemicals and installing filters and sewage treatment facilities, there is also waste segregation and recycling. According to the TBL, a company's goal should be to maintain as much of its natural environment as possible while limiting the harm it causes. It has been confirmed that an organisation that offers people work so that they may earn a living should not simultaneously deteriorate or ruin the environment in which they must live. Manufacturers consider the total environmental cost of a product's lifecycle (Zak, 2015; D'Acunto et al., 2019; García-Piqueres & García-Ramos, 2021). Pan et al. (2021) claim that environmental CSR practices refer to a company's efforts to reduce its environmental imprint while making production more effective and sustainable. Moreover, García-Piqueres and García-Ramos (2021) declared that incorporating economic and environmental CSR practices into a company's strategy may help increase its competitiveness and ecologically friendly processes and products. Satisfied customers focus on environmental aspects when rating their overall hotel experience (D'Acunto et al., 2019).

3. Research Methodology

3.1. Hypotheses development

As a company's most asset, corporate reputation is critical to its success and represents an actual strategic significance. This reputation is a vital part of the company's identity; it also provides a distinct competitive advantage due to the difficulty of imitating it. Activities that fall under the "green marketing" rubric include everything from product development to distribution. In today's business climate, green marketing is becoming increasingly vital. This advantage also helps a company's long-term success regarding how customers buy things and how well its employees do (Bati, 2016). As previously reported by Chen (2008), Ko et al. (2013) and Pathak (2016), green marketing initiatives implemented by hotels show a significant favourable impact on consumers' perceptions and corporate reputation. Hotels demonstrate their concern and commitment to society by adopting eco-friendly behavioural practices. Accordingly, the researcher suggests the following hypothesis:

H₁: Green/ Eco-friendly activities have a direct effect on corporate reputation.

From a stakeholders' perspective, a company's reputation is based on the signals they get about its conduct in the marketplace, such as product quality, financial performance, media exposure, and corporate social responsibility (Fatma et al., 2015). CSR may project a business's favourable image to the public and stakeholders (Fombrun & Shanley, 2018). Insights from Fatma et al. (2015), Chatzoglou et al. (2017), as well as Hur et al. (2014) revealed that there is a significant relationship between the CSR activities a company is engaged in and its corporate reputation. By considering these initiatives, the company may establish a differentiation strategy at the corporate level and anticipate various positive outcomes. The company's reputation will reveal its ability to fulfil stakeholders' expectations. Furthermore, Fatmawati and Fauzan (2021) demonstrated that customer perceptions of CSR activities benefit business reputation. While Park et al. (2014) found that a firm's economic and legal CSR actions positively impacted its reputation, ethical and philanthropic activities did not.

Companies can utilise green/eco-friendly initiatives as an effective CSR tool to gain a competitive advantage since they reflect a favourable picture of the company and demonstrate the company's ability toward society (Ko et al., 2013; Pathak, 2016; Bashir et al., 2016). It includes environmentally friendly goods and processes (e.g., production, packaging, and marketing communications) and ethical business decisions among the green marketing offerings. The researchers asserted that considering ethics within the company's eco/green marketing activities may help to minimise the negative environmental repercussions and optimise the usage of its resources. However, Zhang et al. (2019) and Abbas and Sağsan (2019) emphasise government assistance to encourage enterprises to switch to green operations. Therefore, the researcher proposes the following hypothesis:

H₂: Green/Eco-friendly activities (GA) have an indirect effect on corporate reputation (CR) in the presence of corporate social responsibility (CSR) as a mediator.

Emanates from hypothesis 2 the following sub-hypotheses:

H_{2a}: Green/Eco-friendly activities (GA) have an indirect effect on corporate reputation (CR) in the presence of economic responsibility (ER) as a mediator.

H_{2b}: Green/Eco-friendly activities (GA) have an indirect effect on corporate reputation (CR) in the presence of ethical-legal responsibility (ELR) as a mediator.

H_{2c}: Green/Eco-friendly activities (GA) have an indirect effect on corporate reputation (CR) in the presence of environmental responsibility (ENV) as a mediator.

H_{2d}: Green/Eco-friendly activities (GA) have an indirect effect on corporate reputation (CR) in the presence of social/philanthropic responsibility (SOC) as a mediator.

Based on these previous hypotheses, the research model is as follows:

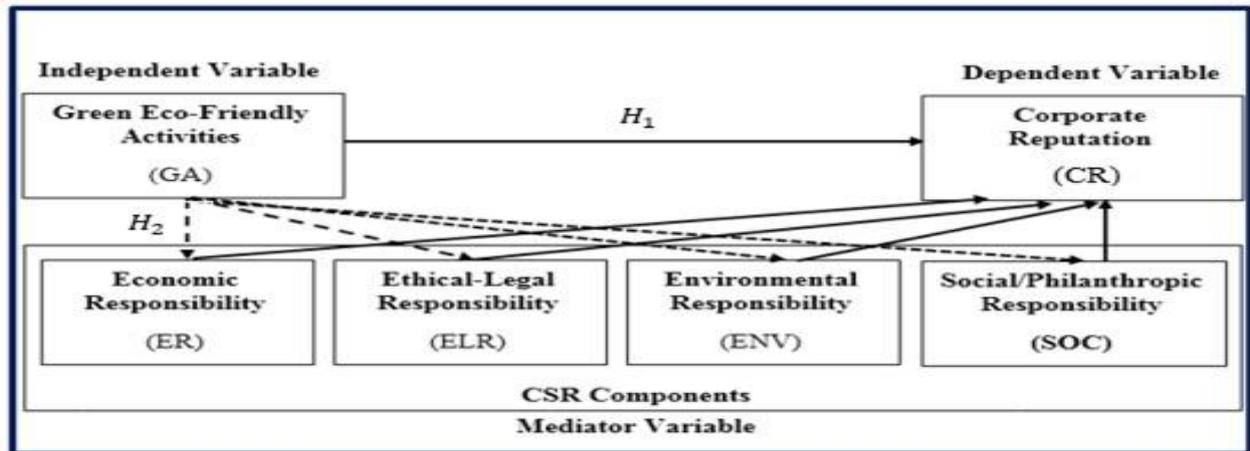


Figure 1: The proposed research model

3.2. Study sector and data collection

Egypt is the third country, after Saudi Arabia and the United Arab Emirates, in the MENA region to attract tourists. The tourism and travel industry are one of the main revenue streams contributing to the GDP in Egypt (Galal, Nov 22, 2021). The purpose of this study is to investigate the impact of green or eco-friendly initiatives on corporate reputation. Moreover, to examine corporate social responsibility as a mediator between the green activities adopted by hotels and their corporate reputation. Therefore, the researcher targeted the green star-certified hotels as they are practising green initiatives in their operations to protect the environment and satisfy the needs of their guests. According to the Egyptian Hotel Association (EHA), about eighty-eight hotels with over 25,000 rooms gained the Green Star Hotel Certificate (GHS) in 2019, located within fifteen destinations country wide. The Red Sea is a tourist destination (Hurghada, Safaga, El Gouna, and Marsa Alam) famous for all its water sports activities, such as diving, snorkelling, wind- and kitesurfing, besides its ability as a beach facility. It represents 58% of the green hotels in Egypt (EHA, 2019).

As a result, the researcher chose green-star hotels in the Red Sea region. The data was gathered through an online survey. The study population consisted of all tourists that had visited one of these hotels. As the population is immeasurable, the sample size calculated was 384 respondents. All surveys were complete, valid, and reliable. The researcher collected the data for the research over eleven months starting in September 2021.

3.3. Measurement scales

The questionnaire was based on the scale proposed by Ko et al. (2013) to measure the green/eco-friendly activities in hotels. Questions on economic and ethical-legal responsibility were adopted from the study of Salmones et al. (2005). Next, the environmental and social/philanthropic responsibility were measured using the Wong & Kim (2020) scale. Finally, corporate reputation was measured using Petrick's (2002) scale. The different items of the six instruments were measured on a five-point Likert scale ranging from "strongly agree" to "strongly disagree". The final part of the questionnaire covered some demographic data from the respondents, including age, marital status, educational qualification, job position, and the destination of the last green hotel they visited.

4. Statistical analysis and results

The researcher used appropriate statistical tests by analysing the data on SPSS 24 and AMOS 26 software packages to serve the research objectives.

4.1. Demographic analysis

Table (1) shows the frequency and percentages of the sample demographic characteristics distributed among these classes using the frequency distribution technique.

Demographic Factor	Parameter	Frequency	Percent
Gender	Female	184	47.9
	Male	200	52.1
Age	16-25	143	37.2
	26-35	85	22.1
	36-45	78	20.3
	46-55	44	11.5
	56 & above	34	8.9
Marital status	Divorced	52	13.5
	Married	118	30.7
	Single	174	45.3
	Widow	40	10.4
Education level	Graduate	228	59.4
	Postgraduate	80	20.8
	Undergraduate	76	19.8
Job position	Entry level	57	14.8
	Middle Management	121	31.5
	Retired	29	7.6
	Top Management	71	18.5
	Unemployed	106	27.6
Destination of green hotel/resort	El Gouna	96	25.0
	Hurghada	102	26.6
	Marsa Alam	102	26.6
	Safaga	84	21.9

Table (1): Demographic Analysis

4.2. Descriptive analysis

The research variables were analysed to determine measures of location such as mean, maximum, and minimum values and their measures of dispersion, standard deviation, and coefficient of variation for each variable. Table (2) presents the variables with their weighted average mean frequency. It is concluded that the weighted average means of the study's independent, mediator and dependent variables fall within the range of the agreed interval according to the Likert scale, which means that responses have low variability and are consistent with each other.

Variable	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
Green/Eco-friendly Activities (GA)	1.50	5.00	3.91	1.04	0.265
Economic Responsibility (ER)	1.33	5.00	3.80	1.03	0.272
Ethical-legal responsibility (ELR)	1.50	5.00	3.93	1.04	0.266
Environmental responsibility (ENV)	1.50	5.00	3.94	1.03	0.261
Social/Philanthropic responsibility (SOC)	1.50	5.00	3.95	1.03	0.261
Corporate Reputation (CR)	1.40	5.00	4.02	1.04	0.258

Table (2): Descriptive Analysis

Source: Prepared by the researcher from SPSS output

Test of normality

The researcher used the Shapiro-Wilk test to determine whether the study's main variables followed a normal distribution or not. The results are presented in Table (3). It is concluded that all the independent, dependent, and mediator variables are not normally distributed as their p-value of the Chi-square statistic is less than 0.05. Therefore, the alternative hypothesis that the variables are not following the normal distribution is accepted.

Variable	Statistic	DF	P-value
Green/Eco-friendly Activities (GA)	0.609	384	0.000
Economic Responsibility (ER)	0.552	384	0.000
Ethical-legal responsibility (ELR)	0.577	384	0.000
Environmental responsibility (ENV)	0.574	384	0.000
Social/Philanthropic responsibility (SOC)	0.570	384	0.000
Corporate Reputation (CR)	0.599	384	0.000

Table (3): Shapiro-Wilk test of normality

Source: Prepared by the researcher from SPSS output

Research variables' reliability and validity

Cronbach's Alpha test was used to measure the degree of study variables' stability.

Variable	Number of statements	t	df	P-value	Cronbach's Alpha
Green/Eco-friendly Activities (GA)	4	73.853	383	0.000	0.990
Economic Responsibility (ER)	3	72.092	383	0.000	0.988
Ethical-legal responsibility (ELR)	4	73.743	383	0.000	0.991
Environmental responsibility (ENV)	8	75.178	383	0.000	0.996
Social/Philanthropic responsibility (SOC)	4	75.024	383	0.000	0.994
Corporate Reputation (CR)	5	76.015	383	0.000	0.988

Table (4): Cronbach's Alpha Reliability and Validity t-test for study variables

Source: Prepared by the researcher from SPSS output

Table (4) shows that the stability factor for the sample responsiveness is 99.8%, which means that the responses were extremely high and stable in that questionnaire. It also reveals that all the t-test values are significant and positive because their p-values equal 0.0000. This indicates a high level of consistency.

Heteroscedasticity test variables homogeneity

The regression models and the OLS method are used to show if the research model has the problem of random error instability and if the variables are endogenous to each other.

Overall test of Heteroscedasticity	Chi-square	P - value
	222.449695	0.00000

Table (5): Heteroscedasticity test for Homogeneity

Source: Prepared by the researcher from SPSS output

The above Table (5) shows that the chi-squared test of value 222.449695 has a p-value of 0.00000, which means accepting the null hypothesis and that the research model does not suffer from the problem of random error instability and the variables are endogenous to each other.

Variance inflation factor (VIF) test

It is concluded from Table (6) that there is no variable suffering from multi-collinearity as the VIF values do not exceed 10.

Variable	VIF
Green/Eco-friendly Activities (GA)	4.214
Economic Responsibility (ER)	4.795
Ethical-legal responsibility (ELR)	4.351
Environmental responsibility (ENV)	5.151
Social/Philanthropic responsibility (SOC)	7.949

Table (6): VIF of the independent and control variables

Source: Prepared by the researcher from SPSS output

Correlation Matrix

Since the research variables do not follow a normal distribution, the Spearman correlation coefficient is the best one. As shown in table (7), the findings indicate that all correlations among constructs are significant at the 0.01 level. In general, the correlation results were good enough to help show how the structural model works.

Variable	GA	ER	ELR	ENV	SOC	CR
GA	1.000					
P-value	-					
ER	0.972**	1.000				
P-value	0.000	-				
ELR	0.986**	0.987**	1.000			
P-value	0.000	0.000	-			
ENV	0.978**	0.989**	0.996**	1.000		
P-value	0.000	0.000	0.000	-		
SOC	0.981**	0.977**	0.993**	0.987**	1.000	
P-value	0.000	0.000	0.000	0.000	-	
CR	0.961**	0.967**	0.980**	0.982**	0.970**	1.000
P-value	0.000	0.000	0.000	0.000	0.000	-

Table (7): Spearman correlation coefficient matrix

Source: Prepared by the researcher from SPSS output

Structural Equation Modeling Analysis

The direct path analysis

The researcher used an SEM path analysis to determine if green/eco-friendly activities (GA) directly affect corporate reputation (CR).

The following Table (8) shows the model paths, the Unstandardised Coefficients, the Standardised Coefficients, the Standard Error (SE), their p-value, and the adjusted coefficient of determination (R^2) from the simple linear regression model Green/Eco-friendly Activities (GA) and Corporate Reputation (CR).

Path	Estimate	SE.	P-value	R ²
Green/Eco-friendly Activities (GA) → Corporate Reputation (CR)	0.652	0.038	<0.001	96.06%

Table (8): Direct path analysis model between Green/Eco-friendly Activities (GA) and Corporate Reputation (CR)

Source: AMOS 26 software output

According to Table (8), green/eco-friendly activities (GA) have a direct and significant effect on corporate reputation (CR), with an estimated coefficient of 0.652, a p-value of <0.001, and an adjusted coefficient of determination of 96.06%. This means that 96.06% of the total variation in corporate reputation (CR) is due to a one-unit change in the independent variable green/eco-friendly activities (GA).

The indirect path analysis

The researcher used an SEM path analysis to determine whether green/eco-friendly activities (GA) have a positive effect on corporate reputation (CR) in the presence of the four CSR components: Economic Responsibility (ER), ethical-legal responsibility (ELR), environmental responsibility (ENV), and social/philanthropic responsibility (SOC).

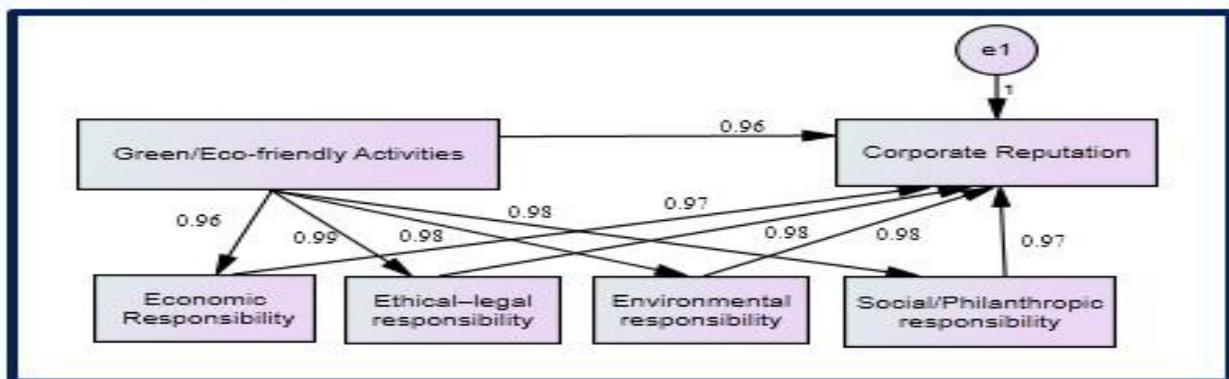


Figure (2): Path analysis for the Green/Eco-friendly Activities (GA) and Corporate Reputation (CR) in the presence of Corporate Social Responsibility (CSR) as mediator.

Source: AMOS 26 software output

The above Figure (2) shows the indirect path analysis model between the (GA) and (CR) in the presence of CSR components as mediators. Meanwhile, the following Table (9) shows the model paths, the unstandardised coefficients, the standardised coefficients, the standard error (SE), the t-test (CR), and their p-values.

Path		Estimate	SE.	P-value	
Green/Eco-friendly Activities (GA)	→	Corporate Reputation (CR)	0.652	0.038	<0.001
Green/Eco-friendly Activities (GA)	→	Economic Responsibility (ER)	0.035	0.461	<0.001
Green/Eco-friendly Activities (GA)	→	Ethical-legal responsibility (ELR)	0.113	0.536	<0.001
Green/Eco-friendly Activities (GA)	→	Environmental responsibility (ENV)	0.113	0.528	<0.001
Green/Eco-friendly Activities (GA)	→	Social/Philanthropic responsibility (SOC)	0.122	0.534	<0.001
Economic Responsibility (ER)	→	Corporate Reputation (CR)	0.112	0.001	<0.001
Ethical-legal responsibility (ELR)	→	Corporate Reputation (CR)	0.114	0.002	<0.001
Environmental responsibility (ENV)	→	Corporate Reputation (CR)	0.104	0.001	<0.001
Social/Philanthropic responsibility (SOC)	→	Corporate Reputation (CR)	0.105	0.001	<0.001

Table (9): Indirect path analysis model between the Green/Eco-friendly Activities (GA) and Corporate Reputation (CR) in the presence of Corporate Social Responsibility (CSR) as mediator

Source: AMOS 26 software output

Multiple Regression Analysis

The following Table (10) shows the linear regression models for determining the effect of green/eco-friendly activities (GA) on corporate reputation (CR) in the presence of the four dimensions of corporate social responsibilities (CSR).

Model	Multiple OLS	Dependent variable	Corporate Reputation (CR)	R^2
Variables	Coefficient	p-value	Significance	
Constant	0.193762	<0.0001	Significant	97.2%
Green/Eco-friendly Activities (GA)	0.483998	<0.0001	Significant	
Economic Responsibility (ER)	0.508505	<0.0001	Significant	
Constant	0.163928	<0.0001	Significant	97%
Green/Eco-friendly Activities (GA)	0.390552	<0.0001	Significant	
Ethical-legal responsibility (ELR)	0.592533	<0.0001	Significant	
Constant	0.0853086	0.0038	Significant	98.04%
Green/Eco-friendly Activities (GA)	0.0900603	0.0388	Significant	
Environmental responsibility (ENV)	0.908150	<0.0001	Significant	
Constant	0.134183	0.0005	Significant	96.7%
Green/Eco-friendly Activities (GA)	0.418758	<0.0001	Significant	
Social/Philanthropic responsibility (SOC)	0.569703	<0.0001	Significant	

Table (10): The Multiple Regression models

Source: Prepared by the researcher from SPSS output

From Table (10), the results show that constant, green/eco-friendly activities (GA) and the four CSR domains: economic responsibility (ER), ethical-legal responsibility (ELR), environmental responsibility (ENV), and social/philanthropic responsibility (SOC), all have a significant and positive effect on corporate reputation (CR). The p-value of the estimate's coefficients is less than 0.05, and the overall regression model has a coefficient of multiple determination of 97.2%, 97%, 98.4%, and 96%, respectively. This result shows that the effect of (GA) on (CR) is more significant in the presence of CSR components as mediators. Therefore, the research hypotheses and their sub-hypotheses are accepted based on the analysis results.

5. Discussions and conclusions

This research investigates how green/eco-friendly initiatives affect a company's reputation. Corporate social responsibility will be used as a mediator between hotels' green activities and their reputations. The researcher has chosen the hotels certified as green in the Red Sea region as the research sample. The guests were asked about the hotel's green activities, how they may affect its corporate reputation, and how CSR may be implemented as a marketing tool to improve it. The results showed that customers are more concerned with the environment and prefer to visit hotels that adopt green activities to live in a healthy and safe environment. It shows that it positively affects the hotel's reputation. Implementing CSR initiatives is a good marketing tool to enhance it. Customers consider the environmental dimension most.

The results of the first hypothesis (H1) indicated a significant positive effect of green eco-friendly activities (GA) on corporate reputation (CR). This result agrees with Chen (2008), Ko et al. (2013), Pathak (2016), and Nguyen & Nguyen (2020). The researcher explains this result as a logical conclusion as consumers are getting more concerned about eco-friendly products. Moreover, health is becoming a focal concern, particularly in the last three years with the COVID-19 pandemic. The Egyptian government heavily promoted health promotional campaigns, demonstrating an ongoing awareness of green products. Accordingly, most consumers nowadays demand non-polluting, eco-friendly, safe, and clean products. This compels hotels to incorporate green marketing into their planning activities to lessen their destructive impacts on the environment, differentiate themselves from rivals, and achieve a positive reputation. Customers select a hotel primarily based on its reputation. When a hotel executes a green marketing plan, it creates a favourable impression in the minds of its customers and gains credibility and a good reputation. This helps customers choose and revisit the hotel.

The results of the second hypothesis (H2) and its sub-hypotheses suggested an indirect positive effect between green eco-friendly activities (GA) on corporate reputation (CR) in the presence of corporate social responsibility (CSR) as a mediating variable. Unlike many studies such as Carroll (1999), Visser (2008), Eshra & Beshir (2017), and Masoud (2017), this research revealed different order of the CSR dimensions. First, environmental responsibilities (ENV) significantly affect corporate reputation (CR). This result is consistent with the study of Fatma et al. (2016). In the second priority comes the economic responsibilities, then the legal-ethical, and finally the philanthropic responsibilities.

This result is due to the nature of the research sample. The demographic analysis shows that most of the respondents are from Gen Z and Gen Y. These younger generations are more concerned with their health and social well-being. They are more active and sports loving. Moreover, they are the internet and social media generations; therefore, they are more information seekers, which helps them when deciding to visit a hotel. The chosen hotel sample is in the Red Sea region and is characterised as watersports and recreational. Therefore, Gen Z and millennials created the demand for green hotels that consider sustainability. This result is consistent with the Boston Hospitality Review by Singal and Rhou (2017) and Chowdhury and Dasani (2021). Resources are limited, and human desires are boundless. Therefore, it is essential to manage resources effectively. The necessity of environmental conservation is now widely acknowledged, and everyone agrees that a green lifestyle is superior and healthier for both present and future generations.

As most customers' shopping habits indicate a preference for "green" brands, hotels are forced to incorporate green marketing into their planning activities. Green-certified hotels gain a competitive advantage and a good reputation among their rivals. It informs the public that the hotels have included a variety of environmentally friendly practices in their operations. Such certificates granted to hotels may become a tool for attracting customers concerned about the environmental consequences of their purchasing and consumption decisions. Most green hotels in the Red Sea have invested in high technology that leads to the rationalisation of energy and water consumption. In line with what Bashir et al. (2016) said, the results showed that hotels could use green marketing as a good CSR tool to gain a competitive edge. Like the results of Fatma et al. (2015), Chatzoglou et al. (2017), Su et al. (2017), and Bianchi et al. (2019), this research asserts that CSR initiatives may help the hotel in creating a positive corporate reputation.

Economic CSR responsibility is a second priority for hotels. In line with Masoud (2017), this research showed that economic responsibilities still attract the attention of hotel management, customers, and the community. The hotel needs to attain profits to sustain and compete in the market. Profits also help the hotel to respond to society's needs through its business activities. The hotel offers the community job opportunities and tax revenue, while customers expect fair prices for superior quality and services. Therefore, adopting green marketing activities may help hotels achieve outlay savings through implementing environmental practices.

Simultaneously with the economic responsibilities come the ethical-legal ones. This result agrees with Masoud (2017) as it is critical to comply with the legal and ethical responsibilities to cover environmental issues. The results showed previously that economic factors are essential for the hotel and the community. However, government and society must find a way to take corrective actions against hotels that do not adhere to the industry standards and reward those who do, especially in developing and emerging economies like Egypt. In most developing countries, it is found that the legal and ethical environment is inferior. Some hotels only apply green/eco-friendly activities as a marketing tool. They may give way to "greenwashing", claiming to do more for the environment than they offer. Therefore, customers do not trust their promotional campaigns, negatively impacting their corporate reputation. The more the hotel is committed to ethics and regulations, the customers are enhanced to trust the services it offers and this help in improving its corporate reputation.

Philanthropic responsibilities come as the last priority. The private sector in Egypt plays a significant role in improving the well-being of society by adopting philanthropic activities. However, as it is seen as a volunteer activity, Egyptian customers perceive the donations and charities hotels offer only as part of their promotional campaigns and part of the government's directions. Meanwhile, hotels may be involved in many philanthropic activities of which customers are unaware. This leads to a negative corporate reputation perceived by customers. Also, philanthropic activities are easily affected by economic fluctuations and any

political circumstances. Therefore, hotels contribute to these philanthropic activities according to their willingness and ability. This indicates the importance of CSR as a mediator between green eco-friendly activities and corporate reputation.

Conclusion

Due to the highly competitive environment, the hotel industry in Egypt is increasingly emphasising green practices and eco-friendly operations as part of its overall business plan to achieve a good reputation. However, hotels may gain a more robust corporate reputation by implementing different CSR initiatives. The proper implementation of the green marketing activities and the CSR initiatives deter the hotel from greenwashing activities. Therefore, the environmental CSR dimension got the highest priority when guests choose to visit a hotel, rating their experience and satisfaction. As a result, consumers tend to trust environmentally and socially responsible hotels more. Therefore, this research highlights the importance of CSR activities as a mediator between green/eco-friendly activities and the hotel's corporate reputation. Therefore, marketers should consider the environmental CSR domain the highest priority, leading to a more substantial corporate reputation. The findings of this study also show that green eco-friendly activities and CSR initiatives might positively impact emerging and developing economies.

6. Limitations and direction for future research

Although the current research enriches the existing literature on green marketing, corporate social responsibility, and corporate reputation, it should be noted that this research focused on the hospitality sector in Egypt, specifically in the Red Sea region. Therefore, its results were limited to this sector and the geographical area. Future research may consider other sectors and geographical areas in the Egyptian context. Moreover, this research focused only on green-certified hotels. Future research may examine other hotels that might apply green activities without being officially certified as green. Also, it is possible to emphasise other factors such as green pricing strategy, green collaboration, and staff attitude, all of which can influence the hotel's corporate reputation and the purchasing decisions made by consumers. This research focused only on the consumers, who are essential stakeholders affecting the corporate reputation. Therefore, other research may focus on examining the effect of other stakeholders on corporate reputation, such as the managerial and operational staff, suppliers, and investors and their perception of the adoption of green marketing activities and CSR initiatives.

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Educide: The Genocide of Education

A case study on the impact of invasion, and conflict on education

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Keywords

Educide, genocide, collateral damage, homicide, illegal war.

Abstract

History has proven that education is the lifeblood of any society or country, providing a firm foundation for an established and civilised community. The destruction of an academic system may be recognised and conceded as a massacre imposed on a selected group. The importance of this research comes from its originality as it explores and introduces a "word" which to date has had no formal definition nor recognition in the English language dictionary, which signifies the impact of mass killing and destruction on education. This research makes an original contribution, through recognising the destructive impact on educational infrastructure as a form of genocide. Accordingly, a significant impact on education and reduces the country's literacy rate, according to the International Criminal Court (International Criminal Court, 1998). The research also makes an original contribution to knowledge as it presents for the first time a formal introduction to this word, reflecting this impact with a well-researched and investigated definition. The research findings demonstrate how war and conflict unquestionably have a significant impact on nations affected by conflict, notably in the fields of education and health. From this point, the research presented reference to previous historical cases, such as the invasion of Iraq, the Vietnam war, the genocide in Rwanda, and Nazi Germany, which can be seen as real-life evidence of how conflict would affect education and literacy rates. The research methodology was based on Iraq as a case study, using systematic literature review to investigate the link between genocide and the destruction of the education infrastructure. The research aims to present the elements of crime, justify the usage of the word educide while presenting a formal definition based on the research of previous usage, the genealogy and legality of the term through identifying what constitutes genocide.

Introduction and study background

Genocide is seen as a crime on a different scale compared to other crimes particularly when measured against humanity due to the underlying desire to fully eliminate a selected population argues the former Secretary general of Médecins Sans Frontières Alain Destexhe as he presents a case of genocide argument in his book on the mass killing in Rwanda (Facing History and Ourselves, 2022). The international law parameters had not been identified clearly by the UN. This is, however, changing with the issue of indictments by UN war crimes tribunals. According to UNESCO (2013), the number of children around the world who are out of school has decreased by 3 million children between 2008 - 2011. However, children living in conflict zones are yet to be benefiting from this change. Although these school age children account for 22% of the global primary school-aged children, at the same time, they account for 50% of the children deprived of an education. Ironically, this is an increase from 2008 figures, which add up to 42% of the 28.5 million children of primary school age who are not enrolled in school in conflict zones. The figures show 12.6 million children have been affected, 5.3 million live in Sub-Saharan Africa, South and West Asia and 4 million in the Arab States. 55% of the population are girls who are disproportionately harmed, as they frequently fall victims of violence and rape during times of conflict. Between 2002 and 2011, 39 nations were designated as being impacted by armed conflict. This gives a concise overview of existing literature on the word "educide" using the legality of the invasion of Iraq as a case of argument while briefly addressing similar internationally recognised relevant cases. Analysis of the research findings surrounding the impact of genocide on education and how this resulted in the recognition of a fairly new word portraying the magnitude of the damage. This was attained through database searches, personal interest in the subject with research spread over ten years and the analysis of the word's etymology.

The word educide was first used by Pluto Press in Nov 2009, which questioned whether the systematic killing of Iraqi academics and the intellectual élite could constitute a case of educide (Baker, et al., 2009).

The word can be traced back to the former UN Humanitarian Coordinator for Iraq, Hans-Christoph Von Sponeck speech in March 2011 at the Ghent university conference. The speech examined the cataclysm of Iraqi academia and the country's disastrous education situation. Von Sponeck touched on *educide*; as a wrongdoing utilising the words education and genocide while focusing on the assassination of the elite academics within the Iraqi educated society.

According to (International Criminal Court, 1998) the latter's intent was for the ICC and ICJ to recognise *educide* in Iraq as a criminal act. Historically, and as literature was reviewed, *educide* has been used to insinuate the link between genocide and the damage to the education system (Columbia.edu, 2022). However, there is no formal definition with a solid, legally supported and academically argued explanation on how an act of crime on education could be justified as a genocide-like act. This presented a need to be explicit about exactly what is meant by *educide*. The research, thus, is the first comprehensive exploration of the illegality of this act and what signifies as genocide on a system such as education. Although *educide* has been used previously in two books, such as Ghent University's Academic Bibliography (Ugent.be, 2012) "Beyond *educide*" the book addressed the sanctions, occupation, and the struggle for higher education in Iraq, Ghent University Academic Bibliography (Ugent.be, 2012). However, the word *educide* has never been formally defined nor a link between the two words addressed or argued in this book. There was no judicious justification linking genocide to the destruction of education although the occupation and the struggle for higher education in Iraq had been addressed. A fiction book titled "*educide*" was published in 2010 with no relevance to the genocide of education (Parrish, 2019). Although a precise definition has proved elusive, the importance and originality of this research is that it presents for the first time a formal definition with full justification in understanding the link between genocide and education. Henceforth, the researcher presents the following definition.

Educide: the mass destruction of a country or region's educational infrastructure because of war, invasion, conflict, terrorism, or mass killings (Rula Alousi).

Research methodology

This began with a background examination into the topic, researching while using systematic techniques used to discover similar and relevant research and publications that existed for review. The research investigated and analysed the background of the word "*Educide*": its origins, genealogy, previous usage, legal factors, and elements of crime that call for identifying this word with legal aspects taken into consideration (Rubanzana et al., 2015). The researcher then systematically examined the available databases, aiming to provide as much information as possible regarding the current usage of the word.

Systematic literature review

A systematic literature review was carried out by posing a clear and formulated research question (Bearman et al.). The aim was to identify a word which had not yet been introduced or included in any dictionary. This was achieved while validating the use of the word from a both legal and academic perspective. What constitute as genocide and why the act of war and invasion in this case is considered as genocide inflicted on the education infrastructure. In an aim to locate previous studies, rigours research was carried out to help in determining and justifying reason for combining two English words into one. Researching various articles books and existing publications had helped in forming a critical analysis achieved in the use of variety of sources had proven to be somewhat difficult particularly since no previous usage of the word in academic context had been made (Askerov, 2010). An interesting finding on "Beyond *Educide*" is that the authors of the book had no previous academic publication relevant to this word or using this word before. Furthermore, various databases were used to investigate the availability of the topic (citeseerx.ist.psu.edu, n.d.)

Many articles published by international organisations such as the UN and UNESCO were also used to analyse and evaluate the research. Having researched a variety of these articles a decision was made to identify the most useful and relevant publication to use for this review. The critical evaluation of the study is presented through the specific criteria used to identify the validity of the study was addressed through the literature review on the elements of crime and what constitutes genocide. An elimination process also took place during this review to decide which publication to go for or otherwise not. The collection of data

offered a methodological approach to this literature review as Iraq's case was used to identify figures and data analysis of what the Iraqi education system was before the invasion of 2003 and what it became post-invasion (Rickinson and May, n.d.).

Limitation on the research

To date, there has been limited research into what constitutes genocide outside of specific world-recognised mass murders. Throughout this review, the word *educide* will be used to refer to the impact of mass killings, war, invasion, and conflict on education (Genocideeducation.org, 2021). Following that, the data selection and analysis methods employed in this research reviewed various studies to investigate and consequently find a legal justification for the usage of this word based on international law and human rights violations. The findings of the research were synthesised and integrated to provide a detailed view of what constitutes genocide and why conflict, war, and invasion could result in genocide against education.

Google Scholar was used searching for the word, which is unquestionably the best scholarly online platform. There is little evidence about what "educide" means; hence, a search through common academic browsers was carried out for this review to identify "educide" as a keyword in this literature review. The outcome proved negative. A search using Microsoft Scholar proved negative as no research was identified to use this word. However, a search on CORE proved to be successful to some extent as this referred to the same book addressed in the literature review for *Beyond Educide* referenced the same book. Other search engines such as Science.gov, Semantic Scholar, Baidu Scholar, and RefSeek had similar outcomes. Overall, these results indicate that this literature review has identified the only possible publications relevant to the use of the word *educide*. Other related keywords were searched using the same databases to search for a link between the words and the aim of this review.

The research reviewed literature surrounding the evolution of education in Iraq which will be divided into three phases, the golden years, the decline years, and the crisis years. Addressing specific turning points in the history of education in Iraq since the formation of the Kingdom of Iraq in 1932 (History.com Editors, 2010) and concluding with the post-occupation of 2003 to the present day. The UN formed the OIP the UN's Security Council Resolution 986 ruled in 1995 to allow Iraq to sell oil in return for food, medication, essential humanitarian assistance and aid for the benefit of Iraqi citizens without enabling Iraq to strengthen its armed force. The OIP lasted for thirteen years and did not end until the invasion of April 2003, when the Coalition Forces initiated a war against Iraq, commanded by the US, culminating in Saddam Hussein's death, Iraq's president, for 24 years. From that date on, the country has been plunged into political and civil upheaval, and the country's entire infrastructure has crumbled. At its heart, this is the worst educational genocide in history, with 84% of Iraq's schooling system destroyed (World Data on Education Données mondiales de l'éducation Datos Mundiales de Educación, n.d.). The UNESCO assessment was one of the Arab world's top systems (Unesco.org, 2022) the report demonstrates succinctly how persistent instability and widespread violence obstruct the restoration of the school sector (Blua, 2009).

In its article II, the 1946 UN General Assembly Convention recognised genocide in A/RES/96-I of the UN General Assembly as a criminal act under international humanitarian law. Moreover, the 1948 Genocide Convention on the Prevention and Punishment of Genocide recognised genocide as a unique murder, forbidding and identifying it as a violent act (United Nations, 2018). The word "genocide" coined by Raphaël Lemkin, a Polish jurist, in his book "Axis Rule in Occupied Europe." The word is derived from the Latin words "Genos" (race or tribe) and "Cide" (disaster) (killing). The word "genocide" was used to describe the Nazis' systematic slaughter of Jewish civilians during the Holocaust. Thereafter, the word "genocide" came to be frequently used to refer to the wholesale murder of members of certain groups or segments of communities. According to Article I of the Genocide Convention, Crime's Elements, genocide may occur through armed conflict, perhaps during a peaceful situation, and on an international or non-international scale (United Nations, 1948). Murder is a criminal act that falls within the category of homicide, which includes both noncriminal actions and criminal acts. Certain killings, such as killing someone to prevent them from performing a major crime or assisting the police, might be taken as proof of ethical implications. Other forms of killings are regarded justifiable, such as when a person defends himself or herself against another person. As defined by the appropriate statutory provisions, an unjustified or understandable murder is something that can be explained or morally acceptable. To distinguish between different forms

of homicide, all court systems emphasise considerable disparities between them (Icty.org, 2022). As a result, punishments differ significantly based on the killer's motivation, the severity of the killer's actions, and the circumstances surrounding the occurrence.

Educide is an articulate portrayal of the devastation and harm done to education. A systematic approach to eradicating and destroying a country's or region's educational infrastructure, either partially or entirely. History has proven that education is the quintessence of the modern world, providing a firm foundation for an established and civilised society, the destruction of an academic system may be recognised and conceded as a massacre imposed on a community. This literature review aspired to show how societies and communities that are subjected to or affected by violence and war would suffer educational outcomes that would be extensive in their structure, management, curricula, and even the ethics of education (TRIAL International, 2021). War and conflict undeniably impact any society, particularly the education and health sectors (International Criminal Court, 1998).

The destruction of educational infrastructure will have a detrimental impact on schooling, resulting in a reduction in enrolment and the availability of skilled staff. Previous historical scenarios, such as the cases of Iraq, Vietnam, Rwanda, and Nazi Germany, can be seen as real-life evidence of how conflict would affect job markets, economic development, growth, literacy, and even understanding of basic human rights. Ignorance would become the norm. Consequently, the research aims to criminalise the act of educide and make more people aware across the globe that such action is a crime against humanity on all levels. Although the international law restrictions had not been identified clearly by the UN, this is changing with the issue of indictments by UN war crimes tribunals. Measurement and definition are somewhat challenging in determining the number of deaths that constitute genocide (Icty.org, 2017). Despite this, many people believe that mass killing is identifiable. Genocide may be seen as a crime on a different scale compared to other crimes particularly when measured against humanity due to the underlying desire to fully eliminate a selected population argues the former Secretary general of Médecins Sans Frontières Alain Destexhe as he presents a case of genocide argument in his book on the mass killing in Rwanda (Facing History and Ourselves, 2022). Consequently, genocide is considered as the severest and most heinous criminal offense inflicted on humanity.

Direction of future research

The findings of this research paper have several important implications for future research. The investigation and thorough analysis of several facets of education, such as classroom pedagogy, curriculum, school administration and management, and teacher development (Craddock, 2017). Of course, with particular emphasis on educide and the impact on education from these elements. Although the current system shows a slight increase in the dropout rate for school-aged children according to the (the cost and benefits of education in Iraq: an analysis of the education sector and strategies to maximise the benefits of education, n.d.) yet Iraq remains to be one of the worst within the international universities ranking (Genocideeducation.org, 2021).

Defining "educide"

A word may be defined through a combination of meaning and sound, pronounced (ɛ: d u: s ɪ d) according to the IPA pronunciation. There are various styles in which a word is defined, identified, and later included in a dictionary. These styles could be a synonym, theoretical, ostensive, and operational (Fike, 2014). In this instance, the later (operational) definition is used as it is specific to how educide is used in the specific context of genocide and education. Operational definition helped in this process to make the word meaningful to use in a sentence or text. It is highly possible that educide may possibly lead to organised assassination of intellectuals within a community; execution and displacement of teachers and school-aged children will be inevitable. A noticeable decline in education and literacy standards would be visible in the affected region. In a more sombre, though straightforward manner, educide can be defined as the mass destruction of education. A word used to describe a genocide-like impact on an education system. The word comprises two words, "genocide and education", reflecting the genocidal impact of conflict of any type and terrorism on education in any war-driven country or region. Educide, is a description of the destruction impacting education in a conflict zone.

The definition may be nebulous; however, the aim is to find a suitable description of the effect of mass killings and genocide like act on education. The research found that the destructing of education is an eradicated process with consequentially devastating outcome either a portion of all a country's or region's educational infrastructure. Education is regarded as the essence of the population, providing a firm foundation for a population or communities that are well established. Along these lines, the destruction of an academic system should be recognised and condemned as a form of genocide. While investigating Iraq's education system and its education, a personal view argues this case as a form of genocide to education. The argument is to introduce this as this is a criminal offence on a mass scale against education. Modern education systems differ significantly around the globe and among cultures.

The element of crime

For a case to qualify as genocide, there must be proof that wrongdoers intended to substantially eliminate certain groups within a country or area, such as national, ethnic, racial, or religious groupings. This intent, or "dolus specialis," is what distinguishes a crime like genocide. Case law has historically associated purpose with state and governmental programmes and plans, although these factors are not included in the worldwide agreement on what qualifies genocidal crime. According to the UN convention (Nations, 2018), genocide victims are deliberately targeted for possibly belonging to one of four protected categories, with exclusion of political groupings. Furthermore, the UN convention specifies that if the group is recognisable, genocide may be executed partially by targeting a portion of the group (Brown v. Board of Education | Case, 1954, Definition, Decision, Facts, & Impact | Britannica, 2022).

During the Vietnam War, several ludicrous assertions were used to justify the US's actions against the Vietnamese people (Trines, 2017). The aim is to reach an understanding of this word's origin to have a better understanding of how to utilise it most effectively. We know what something originally meant and what it has continued to evolve, as well as how people have used it in the past and now. One can detect trends or links across languages based on etymology or genealogy. According to Article I of the Genocide Convention, the crime of genocide may occur during conflict or war, whether due to an international act or domestic. It is also possible to happen during time of peace. The General Assembly resolution 260 A (III) of December 9, 1948, recommended for signature, ratification, or accession (Article XIII, n.d., entered into force on January 12, 1951.) In September 2004, the Secretary-General of the UN proclaimed the US-led invasion of Iraq to be illegal. At the time, Kofi Annan stated that the attack was not sanctioned by the UN Security Council nor was it conforming with the UN's founding charter.

In a statement, Kofi Annan famously notes that "The US-led war on Iraq was illegal" (UN News, 2004). Mr Annan expressed two points here one describing the act as an invasion and the other noting that the UN Security Council did not sanction this invasion nor was the invasion in conformity with the founding charter of the UN. Thus, on all levels, this was an illegal war. Although Mr Annan noted that Iraq had already been warned by the security council with resolution 1441 and should Iraq fail to comply there would be possible consequences. Mr Annan goes on to say that the consequences of noncompliance should have been determined and actioned by the security council rather than this illegal war (Ewen MacAskill and Borger, 2004). According to (Murphy, 2003), the UN's Article II of the Genocide Convention has a constrained description of this atrocity that reduces to two main elements. The mental and physical elements. The mental element, consisting of the "intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such" (Hrw.org, 2022).

To qualify as genocide, perpetrators must demonstrate an intention to physically exterminate a national, ethnic, racial, or religious group. The physical element consists of killing individuals belonging to a specific group while aggravating harm and suffering on its members, purposely trying to impose harsh living conditions with the predicted result of physical destruction (Hrw.org, 2022). For the most part, this is expected to involve forcible restrictions on childbearing within the community and forcible removal of children from one group to another group and place. Cultural destruction is insufficient, as is the goal of dispersing a group. This distinctive intent, or *dolus specialis*, distinguishes genocide from other crimes (Ambos, 2009).

In its periodic judgements the ICC, had created headlines all around the world, drawing attention to itself. However, national law enforcement is responsible for most of the work involved in combating

impunity for serious crimes that are prohibited by international law. Current efforts are being made in two different directions to improve international collaboration to ensure national prosecution: In addition, the ILC is working on a long-term, two-part project; (Strengthening the International Criminal Court and the Rome Statute System: A Guide for States Parties IBA International Criminal Court and International Criminal Law Programme, n.d.) the first involves draughting articles in precreation of future convention on the prohibition of violations of human rights, akin to the Genocide Convention and the ICAT, are already in force.

The second part is a state-led initiative to draught an international treaty on mutual legal assistance for countries suffering from serious international crimes (OHCHR, 2022). Choosing an appropriate description for international crimes is one of the most challenging problems to overcome when assembling state responsibilities to prosecute international crimes. It is one of the most difficult challenges to resolve when setting state duties to prosecute such crimes. Section 7 of The Rome Statute lists eleven offences that constitute crimes against humanity, as well as a residual category for acts that are akin to crimes against humanity (International Criminal Court, 1998).

To be considered severe, the actions must be carried out as part of broad or organised aggression on civilians. With knowledge and understanding of the attack, which is a "chapeau" factor required to support their classification. A defendant only needs to commit a single occurrence of such crime to be found guilty of a crime against humanity; much of the vitriol directed toward low-level perpetrators stems from the fact that they were involved in a large-scale attack on civilian targets (Icty.org, 2022). Unfortunately, in the same section, the crucial phrase "attack" was defined in a comprehensive manner that did not make sense.

There is no physical violence required for an assault; rather, multiple occurrences of any of these behaviours, in conformity with state policy, is all that is needed. According to critics, the ICJ has not had a chance to apply a more restricted interpretation. In the end, the ICC (International Criminal Court, 1998) is summoned in the direst of situations. Only a few cases are eligible for consideration by the Court, which further limits the number of possible causes put forward as crimes under the Rome Statute. Such language has been interpreted liberally in previous rulings, if national laws violate an international human rights criterion, including detention as a legal option, it would be unlawful (Icty.org, 2022). There must be a violation of international law's essential conditions when detention occurs with an actual assault on civilians, international tribunals have had little incentive to limit the scope of this category.

Iraq – A case of educide

In 1921 the Iraqi education system was established. In the early 1970s, education became nationally free and at the same time compulsory. The school educational system is overseen by the MOE. The MOHESR is responsible for tertiary education and research centres. With the introduction of UN sanctions in the early 1990s, student performance began to fall. This arose from a reduction in school expenditure because of trade sanctions. Simultaneously time, it was estimated that 80% of school buildings needed rehabilitation and lacked basic sanitary amenities, with most schools lacking libraries and modern scientific labs. In response to all these pressures, the government cut the obligatory school age to eleven years only at the time (Craddock, 2017).

To quantify the problem, the post-invasion administration was predominantly dysfunctional and uneducated, as such they relied on bogus and forged educational qualifications to secure high-level seats in parliament or, ironically, university chancellors and deans of colleges, among other current administration or senior figure appointments. Prior to the invasion, around 500,000 persons have been enrolled in universities and colleges. Following the embargo, 84% of males and 65% of females were educated, indicating a small reduction in literacy among the population aged 15–24 compared to the UNESCO's CIA World Factbook of 1978, when illiteracy was abolished (Cia.gov, 2021).

Iraq's education system Timeline

1970-1984: The Golden Years

During this time, the education system was thought to be among the best in the Middle East, and it was well praised. By 1984, substantial accomplishments achieved, including near-complete gender equity in enrolment. The Illiteracy among children aged 6 to 12 has decreased to less than 10%. The average

government spending per pupil was \$620 which was around the same annual budget per pupil in the UK for the same year (Parliament.uk, 2022)

1984-1989: The Decline Years

The war with Iran in the 1980s resulted in a diversion of public funds to military spending. As a result, overall social spending has decreased dramatically. As a result, there was a deficit in the education budget, which continued to rise over time. This period lacked strategic planning due to the Iraq – Iran war where government expenditure was more focused on the armed forces.

1990-2003: The Crisis Years

In addition, the First Gulf War and the ensuing economic embargo greatly weakened educational infrastructure by the early 1990s. The GNP spending on education fell to virtually 50% less than the original budget, sitting at 3.3% with the beginning of the invasion. The former \$620 average government spending per pupil was now reduced to \$47 per pupil. In addition, in 2002-2003 as Gross Income fell. Primary education enrolment began to decline, and a 15% of primary education were repeating the year and 34% from secondary education. This was double the figures for the MENA region. However, the worst was yet to come. Academics were threatened with violence, kidnapped, or murdered on numerous occasions since the 2003.

Investigative reports

The Iraq War Inquiry, dubbed the "Chilcot Report" in honour of its chairman, Sir John Chilcot, was a British public inquiry investigating the country's participation in the Iraq War. Prime Minister Gordon Brown initiated the probe in 2009, and Chilcot issued a public statement in 2016 (Hyde, 2009). Sir John Chilcot announced the reports in 2016, more than seven years after the investigation was launched (News, 2016). The report concluded that the former president of Iraq, Saddam Hussein, did not constitute an urgent risk to United Kingdom's interests. During the 2003 invasion of Iraq (Harding, 2016) the report found that there had been no peaceful alternatives to war offered or indeed exhausted. The report also found that both the UK and USA have undermined the authority of UN's Security Council (Sands, 2016)

It is appropriate and significant that the United Kingdom, unlike many other countries, attempted to address its political mistakes and violations, including the UN Charter. The report necessitates thoroughly examining these issues. One might believe that criminal offences with such lethal consequences would result in legal sanctions against the liable political and military figures. The Chilcot report does not contain any legally binding judgments. As Chilcot points out, this would necessitate establishing a properly constituted and internationally recognised court.

This research identified that the Chilcot report presents an excellent blueprint on how to deter unnecessary wars and conflict as these lessons ought to be the imperative of enacting the necessary changes to the criminal law reforms. Naturally, this makes one think of the International Criminal Court in The Hague, whose great predecessor, the Nuremberg Military Tribunal, set up to punish important Nazi perpetrators, referred to Germany's aggressiveness as the mother of all crimes. Investigations or charges related the crime of aggression cannot, however, be brought in The Hague at this time (Ecchr.eu, 2022).

Robert Fisk's July 2004 report was one of the first to address this violence (Paul, 2021), according to Fisk, Iraqi academics think it likely that there is a campaign to strip Iraq of its intellectuals, to finalise the ruination of Iraq's national identity that launched in April 2003. In January 2006, the Brussels Tribunal filed an international appeal against the crime (OHCHR, 2017). As of December 20, 2008, it listed 410 killed academics and 76 threatened intellectuals. There is little information available about the group or groups responsible for the attacks.

According to the Brussels Tribunal, nobody has been apprehended in connection with these assassinations though various hypotheses for the attacks have been advanced, including a systematic attempt to decimate Iraq's intellectual elite by Iraqi non-state armed opposition groups. Due to the sheer severity of the violence against academics, there is concern that those academics who are not killed will or would have left Iraq by the time of this research is completed. According to the UN Educational, Scientific, and Cultural Organisation director-general Koichiro Matsuura (Unesco.org, 2022), by targeting those who

hold the keys to Iraq's reconstruction and development, the perpetrators of this violence are jeopardising the prospect of Iraq and its justice system.

Conclusion

As we look back on the decision to invade Iraq, we shouldn't forget that the Iraqi regime pre 2003 committed grave human rights crimes directed at various segments of the Iraqi population. It would be wrong to place all the blame for the destabilisation of the region on foreign military powers. Nevertheless, the war and consequent occupation contributed massively to the fragility of Iraq and the emergence of various terrorist groups which contributed to the destruction and damage to the Iraqi education system (Ecchr.eu, 2022). The aim of this research was to formulate a formal definition while identifying the crime of genocide as a criminal act which can be inflicted on a system, not just a specific segment of a community. Very little was found in the literature on the question of defining educide as found through the literature review and search engines. However, in reviewing the available publications, much research and data were found on the association between genocide and the impact on education. Yet, all the reviewed literature failed to fully define what educide is.

Although insinuation was evident, yet there was no distinct identification and definition of the existed in any of the literature. The book *Beyond Educide* makes no attempt to suggest why did the authors choose the title of the book. One criticism of much of the literature on the link between genocide and the damage to education is that lack of identification to a specific type of crime such as educide which many of the available literature failed to identify. Supporting both academics and students across various academic levels had brought the impact of decades of conflict and war on what was once a reputable academic structure that neighbouring countries lookup to.

The idea of the word educide was conceived during work on a documentary in London with other academics and professionals organised by the Brussels tribunal who dedicated a copy of the book to this author after conducting several interviews in search of answers to the scale of damage to the Iraqi education system. This research concluded that the act of invasion, war and destruction of education is indeed a crime and should be categorised as genocide when taking the legal aspects into consideration. There is no evidence that the act was what wrongdoers classify as "collateral damage" which is often used to justify the killings of civilians and the destruction of a country's infrastructure. Collateral damage was made popular and frequently used during military strikes on Iraq. First used in February 1905 by the New York Tribune justifying the unintended deaths of civilian casualties during wartime.

In conclusion, this research supports the international legal line of reasoning that human rights organisations have argued for years that what happened in Iraq was an unjustified, unethical war, illegal invasion, and intrusion on sovereignty. This research also concludes that the impact had caused severe damage to the Iraqi education system which to date is suffering its impact.

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Methodology model for poverty intervention: seeking validation and evaluating efficacy, using social marketing techniques

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Keywords

Developing countries, Global perception of poverty, Model for poverty intervention, Oxford University, Social Marketing techniques, Strategy conference.

Abstract

Purpose: This research seeks to investigate methods of validating the Methodology model for Poverty Intervention (MMPI), as well as its efficacy.

Design/Methodology: It is an exploratory longitudinal design that is based on previous empirical studies entitled 'What the young people and community organisations perceives their support needs in Nigeria in tackling poverty' and 'How to sway policy makers, using social marketing techniques (SMT)?' As part of a mixed methods research methodology, for the quantitative data, an instrument comprising a two-part, 31-item questionnaire was utilised. Part 1 is entitled, 'You and Poverty Survey' and Part 2 is entitled, 'How to Ask Government Survey'. The interview schedule was also used in respect of the qualitative data and a discussion group methodology was adopted. The research participants for these studies were a sample-size of 1461 consisting of randomly selected young people.

Results/Findings: The findings revealed there appears to be an acute methodological validation limitation relating to these previous studies. The review showed that validation of the methodology is needed for global use. It was also found that validation could be best achieved using an additional independently collected dataset, overseen by a higher level of institution suitably experienced and qualified in poverty eradication or social policy formulation, such as The University of Oxford/United Nations development Programme(UNDP).

Practical implications/conclusions: Poverty depicts a wide range of social challenges experienced daily, often beyond a person's control. For example, inequality, social exclusion, deprivation, social disadvantages have emerged because of structural imbalances in society, and sometimes have devastating implications for vulnerable people in society: children, young people, women, minorities, people with disability, the elderly, and others.

1. Introduction

This research seeks to investigate methods of validating the Methodology Model for Poverty Intervention (MMPI), as well as its efficacy, using social marketing techniques (SMT). This study is based on previous empirical studies entitled, 'What the young people and community organisations perceives as their support needs in Nigeria in tackling poverty,' and 'How to sway policy makers, using social marketing techniques (SMT)?'

At the regional levels, the MMPI has had significant evidence of demonstrable success rates. Its unique contribution was that this research improved on the previous Multidimensional Poverty Index by enlarging and combining it with a current Social Marketing Technique model. The new Multi-dimensional Poverty Index - Implementable Joint Programme of Action model is user friendly and retains the multi-dimensional paradigm. This extension was achieved through the literature research, the development of the methodology, adopting a mixed-methods approach and the strategy conference.

The research paper is arranged as follows: Introduction (includes a research problem, research question and research objectives. Literature review, Research Methodology, Findings/results, Discussions/conclusions, Limitations/direction for future research, Appendices, and References.

1.2 The Research Problem

This research paper is motivated by the question 'why are there are so many billions of people suffering under such high levels of extreme poverty and/or cumulative poverty, and yet the contemporary world

have so many billionaires and rich/developed countries, including the organisation for economic co-operation and development (OECD) countries?

This research therefore, focusses on the reason Nigeria, the leading oil and gas producing country in Africa, its people, particularly young people, community organisations and other vulnerable citizens, still experience extreme poverty? (Uddin and Uddin, 2013; Eguruze, 2016, 2017, 2019, 2022).

It is disappointing that “Nigeria, the 12th largest producer of petroleum in the world and 8th largest exporter, and has the 10th largest proven reserves, experiences extreme poverty. Petroleum plays a large role in the Nigerian economy, accounting for over 40% of GDP and 80% of government earnings” (World Bank, 2011,2014; Eguruze, *ibid*). It is disturbing that Nigeria in general and more particularly, the people and the communities that produce over 99% of the Nigerian oil revenue should remain impoverished. The implications of this poverty have led to high unemployment rates or absence of real jobs, low wages, lack of access to quality education or affordable, decent low-cost housing. There is also a lack of access to quality healthcare or infrastructural facilities such as electricity, and/or potable drinking water, micro-finances, access to finance for business, recreational centres, economic growth and freedom from pollution.

This study follows the lessons gained from the experiences of Vietnam, which was devastated by war and internationally isolated but has, in the past few decades, seen significant economic growth and reduction of poverty (Tran, 2013) Thus, Vietnam offers an excellent example when it comes to tackling poverty in emerging nations, Pernia, 2003, Tran, 2013, Eguruze, *ibid*; Kumari and Eguruze, 2021).

Although there has been a wide range of similar studies on poverty reduction both in the region in question (Uddin and Uddin, 2013; Eguruze, *ibid*; Eguruze and Kumari, 2019,2022, and elsewhere around the world (Sen,1982, 1999, UNDP, 1979, OPHDI, 2010). Nevertheless, the problem of extreme poverty in Nigeria, and the sub-Saharan Africa region is under-researched. Equally, there have been numerous previous, well-meaning interventionists poverty alleviations efforts both around the world (UNDP 1979: OPHDI, 2010,Oxfam, 2015: MDGs,2015) Unfortunately, the problem of extreme poverty persists and has severe effects on young people and community organisations, across the globe. The authors, therefore, believe that a new approach is necessary.

1.3 Research Question. What is the purpose of a validation and efficacy evaluation? What does it seek to obtain and how or in what ways to achieve this?

1.4 **Research objectives.** To identify and critically analyse the purpose and methods of validation and efficacy evaluation this study seeks to undertake.

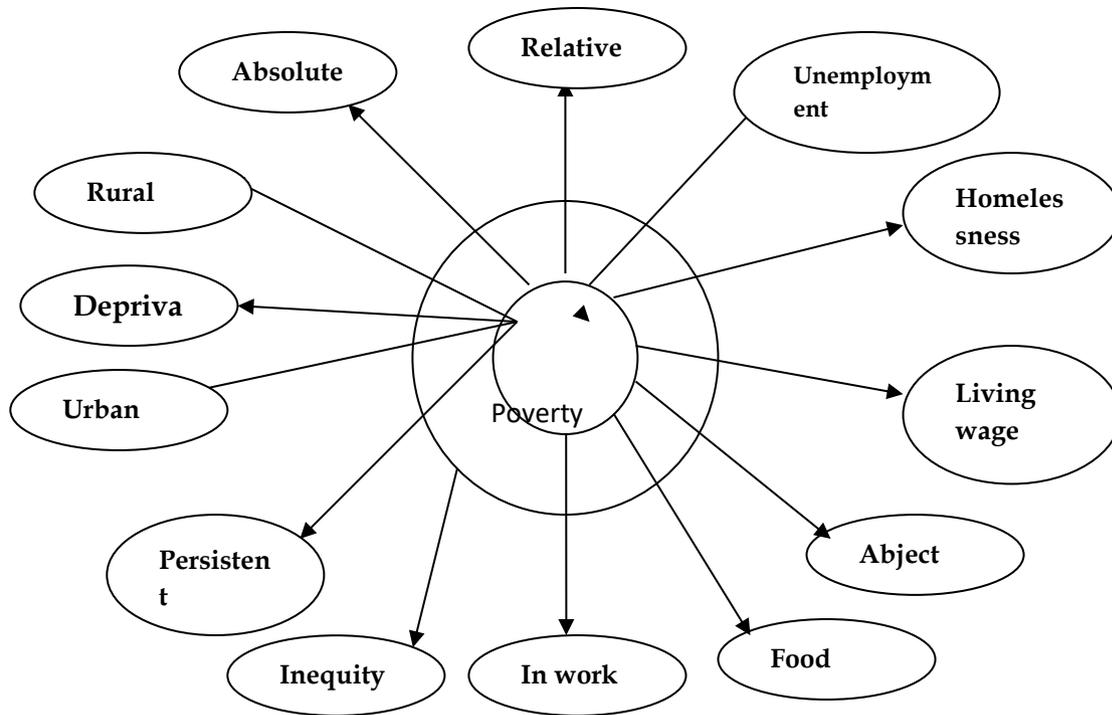
2. Literature review

This chapter focuses on building the theoretical framework, which underpins the study. The Key cases involved (Eguruze,2016,2017, 2019, Uddin & Uddin, 2013)(see details under Findings/results in 4, table 2.2). Definitions of poverty are depicted here (Figure 2.1 below) in the form of poverty concept mapping (poverty tree), and the methodology model for poverty intervention (MMPI). As this paper is a methodology validation paper, it does not delve deeply into the theory of poverty which already has been exhaustively examined in previous poverty literature.

2.1 Definition of Poverty and Implications

Poverty is a multi-dimensional and debateable topic, as it is reflected in Figure 1

Figure 1 Poverty Concept Mapping



Source: Author’s Construction 2014,2016, 2017, 2019, 2020, 2022

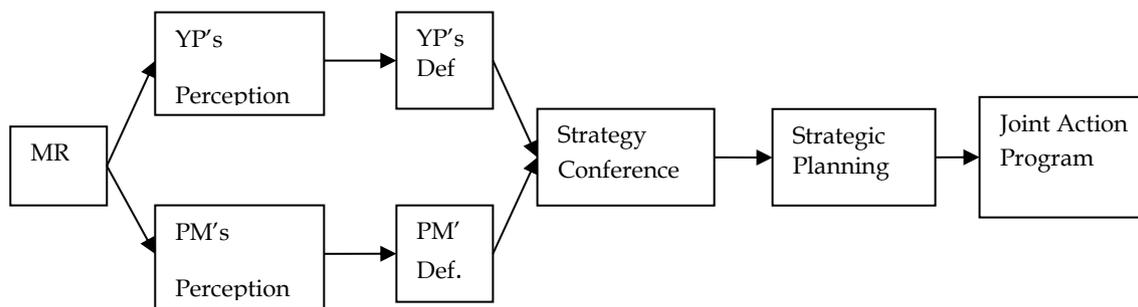
As seen in Figure 1, poverty is complex and multidimensional in nature. It comprises these aspects and others: inequality/inequity, in-work, food, low living wage, homelessness, unemployment, absolute, rural, deprivation, urban, persistent, as outlined in figure 1. Other forms of poverty may include extreme poverty, cumulative poverty, absolute poverty starvation, famine. These meanings are varied and different. As these were previously illustrated in a series of literature review papers, this current paper focuses on the methodology development.

Despite the fact various interventions have been made over the years, extreme poverty and cumulative poverty persist. Whereas these various interventions are welcomed, they do not seem to go far enough. The solution therefore may rely on a new approach. This leads us to the MMPI as in 2.2, Figure 2, below.

2.2 Researcher’s Methodology Model for Poverty Intervention (MMPI)

This researcher’s methodology model for poverty intervention represents his approach to overcoming the problem of poverty in Bayelsa State of Nigeria. This is based on the belief that social marketing could offer a way to end poverty as the framework has been purposely designed to bring about constructive social change. This model functions in sequential process starting from left to right as below in fig 2

2.3.1 Researcher’s Methodology Model for Poverty Intervention (Fig 2)



Source: The researcher, construction (Eguruze, 2016, 2017, 2022,)

Notes to Fig 2 (Researcher’s methodology model for poverty intervention):

MR = Market Research; YP = Young people’s perception; Young people’s definition of poverty; PM = Policymakers’ perception; Policy makers’ definition of poverty; Strategic Conference; Joint Programme of Action.

Step 1 (a) Market Research: Market research is used to impact on young peoples’ perceptions. This enables young people to define poverty in their own terms. (b) Market research is also used to impact on policy makers’ perceptions and triggers them to define their understanding of poverty from that perspective.

The significance of the market research is discussed below. Market research is gathering or collecting data for decision making (Kotler, 2012; Kotler and Armstrong, 2014). It is usually the starting point, the first point of call, in any marketing venture. Market research facilitates effective decision making, enables managers to make quality decisions and ultimately decides outcomes more accurately and, therefore, more cost-effective. Therefore, market research is a vital and useful tool in social marketing to achieve cost-effective poverty reduction programme leading to effective social change. Social marketing is a strategic driving force.

Step 2 Strategy Conference Model: A Strategy conference model is applied here to match the diverse definitions of poverty through strategy meetings (to avoid a decision-making crisis). The relevance of the conference strategy model is that it contributes to clarity obtaining a consensus when there are differing opinions, according to (Soutar, 2004; Buchanan and Huczynski, 2010)

2.3.4 The Strategy Conference Process: The Strategy conference’s process is aimed at harmonising areas of major differences. Strategy conference is a critical tool/instrument of Action Research

Fig 2 Strategy conference process

Young people Define poverty as well as Policymakers define poverty from their perspectives <u>step 1</u>	Comparison of findings in different definitions <u>step 2</u>	Identify/pick areas of Issues of Main differences <u>step 3</u>	Select reps from YP and PM covering differences in views <u>step 4</u>	Interview each representative against personal view <u>step 5</u>
Research introduces each issue to the Conference <u>step 10</u>	Distribute to conference attendees <u>step 9</u>	From reactions create for each issue/paper for discussion at conference <u>step 8</u>	Distribute Summary and repeat the interview <u>step 7</u>	Write up & summarise each individual view <u>step 6</u>

Source: Eguruze, 2015, 2016, 2017, 2019, 2022)

2.3.5 The Relevance of the Strategic Planning Model: Hill and Jones (2009) define strategic planning as “the process of taking a specific pattern of decisions and actions by managers to achieve an organizational goal better than competitors.” This study adopts strategic planning as part of the SMT model due to its strategic usefulness: it is a rational approach to planning and control. It enables the researcher to assess the strengths, weaknesses, opportunities, and threats (SWOT) about the environment of Nigeria and its competitors whilst tackling poverty. Hill and Jones (2009) argue that since the strategic capabilities of an organization are not absolute but about its competitors, a SWOT analysis can only be meaningful if it is being applied comparatively, and if it involves top management itself. In summing up, traditional planning itself requires taking alternative courses of action when faced with choices.

2.3.6 Strategic Planning Process (Fig 3)

Strategic analysis Corporate -level (decision making) strategy	Strategic choice Functional level strategy (decision-making)	Strategy implementation Operational/supervision level (decision-making)
Values/Vision Mission/statements Goals/Objectives Internal analysis Strengths/weaknesses External analysis Opportunities/Threats analysis Core competencies/resources	Business level strategy Global level strategy Designing strategies and Strategies and tactics to achieve corporate goals	Design. Organisational structure Matching strategy, structure & control, manage strategic change Designing control systems E.g., Feedback: monitoring and evaluating if goals go according to plan? If not, why not? Plan B? Budgeting /budget allocated. Based on needs/wants of communities' purpose of community regeneration)

Source: Eguruze, (2016, 2017, 2012)

Vision or Mission is used interchangeably with goals or objectives. Vision or Mission, by an organisation, is a formal declaration of intent or of what the organisation would like to achieve over a period, whereas goals or objectives are the desired or specific future state that the organisation wishes or sets out to realize. They must be specific, measurable, achievable, realistic, and time-constrained, evaluated and re-visited (SMARTER). (Hill and Jones, 2009; Eguruze, *ibid*)

Step 3 Strategic Planning Model: A strategic planning model is applied here to ensure that a pattern of decisions and concrete, actions are being taken by managers to achieve an organisational goal better than competitors. As noted, there are three specific components: strategic analysis, strategic choices, and strategic implementations. (Hills and Jones, 2009; Eguruze, *ibid*).

Step4. Joint Programme of Action (JPA): The last phase of the researcher's methodological model for poverty intervention is the implementable joint poverty reduction programmes (JPA) (or action plan). The joint programme of action implies that, based on the strategic plans drawn-up, a range of different specific actions must be taken to tackle different poverty challenges head-on. Specific implementable joint programmes of action (IJPA), according to particular needs: programmes to provide good standards of low cost and/or affordable housing; programmes to end difficulties in accessing free healthcare services, loan, grant and scholarship schemes to enable all eligible persons to access free quality education whenever and wherever they want and to access such education regardless of race, disability, gender, religion or sexual orientation, political beliefs or affiliations. This model functions in the sequential process starting from left to right as below in fig 2.

2.3.7. Implementable Joint Programme of Action (IJPA): The last phase of the researcher's methodological model for poverty intervention is the implementable joint poverty reduction programmes (IJPA) (action plan). The IJPA could be developed for social campaigns - to both targeted audiences and the wider public. The aim is to end poverty. This action plan will be the researcher's model (tool for delivery) through which poverty could be reduced, if not ended.

3. Research Methodology

The design/methodology adopted in this study is an exploratory longitudinal design that is based on previous empirical studies entitled 'What the young people and community organisations perceives their support needs in Nigeria in tackling poverty' and 'How to sway policy makers, using social marketing techniques (SMT)?' As part of a mixed methods research methodology, for the quantitative data, an instrument comprising a two-part, 31-item questionnaire was utilised. Part 1 is entitled, 'You and Poverty Survey' and Part 2 is entitled, 'How to Ask Government Survey'. The interview schedule was also used in respect of the qualitative data and a discussion group methodology was adopted. The research participants for these studies were a sample-size of 1461 consisting of randomly selected young people.

How was the sample-size of 1461 achieved? The Nigerian Studies: (i) Eguruze (2016) a PhD; empirically based study in Nigeria had a sample of 301: (ii) Eguruze (2017) (a post-Doctoral): an empirically based study in Nigeria had a similar sample-size of 352. (iii) Eguruze (2019), again another (post-doctoral) field

work/empirically based study with a sample-size of 751: (iv) in Uddin and Uddin(2013), the response details were unavailable. The Indian study, was also a PhD/qualitative study in India, undertaken by Kumari(2020) and the sample-size utilised was 57. By contrast, in Boznia, EU, done, was a review, as indicated in Table 2.1, below.

3.1 Data Analysis

Table 2.1 Analysis of the most relevant contrasting cases-studies utilised in this research

Uddin&Uddin in 2013, Review : secondary data, in Nigeria <u>Boznia, EU</u> 2012 a Review on youth migration crisis brain drain by United Nations Population Fund (UNPA) (2012) ; unemployment nepotism, corruption, poor education, organised crime, etc	Eguruze 2016 This study was based on PhD, empirical research data from the Niger Delta region of Nigeria ; sample- size 301 ; respondents young people (aged 18-24) & rural community organisations ; randomly selected.	Eguruze, 2017 Post-Doctoral research : Based on empirical research data from the Niger Delta region of Nigeria. Sample size 351 ; respondents aged 18-35)	Eguruze 2019 Post-Doctoral Based on empirical research data from the Niger Delta, Nigeria ; sample size of 751 ; randomly selected.	Kumari 2020 This empirical work related to PhD research. Data was collected at the Amadobi&Ghas hila rural villages, Jharkhand, India ; A qualitative ; phenological analysis in which 57 (aged 13-59) semi-structured interviews were conducted (with consent) in their own local languages /transcribed, coded, translated.	Kumari&Eguruze 2019& 2022 reviews done during 2019 & 2022 ; While 2019 related to PhD-research : the other was a post-doctoral research. Utilised both social entrepreneurship/Social marketing techniques (SMT).
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Source: Author’s construction 2022 based on previous research data 2011- 2019.

As noted in Table 2.1 above, the main case-studies that were analysed are outlined.

Following these reviews, the most significant causes, experiences, and solutions were highlighted. These were isolated and re-organised into ranking order, as below:

4. Findings/Results

Table 2.2 Outline of Factors that Cause, Experiences and Solutions to Poverty in Nigeria in Rank Order; based on 4 empirical research outcomes (Eguruze, 2016, 2017, 2019, 2022; Uddin & Uddin, 2013; Kumari (2020) and Kumari &Eguruze (2021)

Causes of Poverty in Rank Order	Experiences of Poverty in Rank Order	Solutions to Poverty in Rank Order
<p>Causes</p> <p>(1) Corruption of top politicians/government officials,</p> <p>(2) Absence of jobs/unemployment,</p> <p>(3) Low wages,</p> <p>(4) Access to quality education (poor education),</p> <p>(5) Oil/gas pollution, climate change</p>	<p>Experiences</p> <p>(1) Unemployment,</p> <p>(2) lack access to quality education,</p> <p>(3) lack of access to business start-up finance(micro finance),</p> <p>(4) lack of low-cost housing (lack of decent affordable housing), homelessness,</p>	<p>Solutions</p> <p>(1) A Marshal-plan support is required for massive infrastructural changes (2) Free access to quality education ;</p> <p>(3) Stop corruption of top government officials and politicians (4) Create real jobs and employment opportunities, (5) Develop employment skills & training, (6) Improve agriculture ; (7) Attraction/gas companies to invest ; (8)</p>

<p>(6) IMF/World Bank conditionalities, (7) War (8) Tribalism (9) Migration (youngsters escaping to foreign countries from their own) / (emigration e.g., rural/urban movements /brain drain (10) Population (11) Poor governance /Poor leadership (12) Poor infrastructural facilities eg : electricity, water, roads, public transportation systems ; healthcare/medical care, recreational centres, lowcost, good standard housing etc.</p>	<p>(5) lack of access to quality free healthcare (no-money-treat illness), (6) poor infrastructural facilities, (vi) (7) No-food to-eat (hunger/starvation) (8)No clean drinkable water (9)No regular electricity supply. (10) No money to buy new clothes; (11) Poor roads/absence of public transportation). 12) Luring people into prostitution, drug gangs, kidnapping.</p>	<p>Create conducive atmosphere ; peaceful and enabling environment, (9) Increased investment spending ; (10) Steady electricity;(11) Free healthcare are also seen as problems. (12) Actively involving young people and community organisations in policy-decision making and the policy-implementation processes, (13) Setting new priorities, or re-directing, is likely to enhance the probability of ending extreme poverty.</p>
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Source: Eguruze, (2015, 2016, 2017, 2022).

Table 2.2 comprises the main significant causes, experiences, and solutions, which are based on the summary of the expressions by the respondents themselves. As shown, these are arranged in a rank order, as far as practicable. These causes, experiences, plausible solutions may go some way to help tackle the challenges.

5. Discussion and Conclusions

5.1 Factors that cause, experiences and solutions to poverty in Nigeria, India and Bosnia in rank order (as in Table 2.2). Following the above data analysis, the findings; the most significant factors causes, experiences and solutions to poverty in Nigeria, and arranged them in a rank order format, based on 4 empirical research outcomes (Eguruze, 2015, 2016, 2017, 2022; Uddin & Uddin, 2013). The purpose of this was to make it more meaningful and give a clearer understanding. There appears to be consistency in young people and communities 'demand for jobs/employment opportunities, ending corruption and make improvements in wage levels, as well as infrastructural transformation. Similarly, there was a desperate need for real jobs amongst young people and rural community organisations. From the young people's perspective more needs to be done.

5.2 Cumulative Poverty: a new definition of poverty was needed from the perspective of young people and rural community organisations. Based on the above, analysis, a new definition is needed. Based on the above study, until recently, the above revealed the definition of poverty to have been elite based. Cumulative poverty as a new form of definition was driven by the grass roots level.

5.3 Poverty Tree approach (The Poverty Mapping); Poverty, as it is reflected in Figure 2.1 above, is complex and diverse. It reflects a wide range of environmental, social, and economic situations, making it prime-facie insurmountable challenge. However, the significance of the poverty concept (poverty mapping) is that it embedded most aspects into a compact form, visually more accessible. The Poverty mapping conceptualisation has made it more powerful. Until recently, the discourse on the meaning and impact of poverty had not been introduced in such a simple and pragmatic view of poverty from a range of perspectives.

5.4 A new SMT = MMPI+IJPA model for poverty intervention; the new Researcher's Methodology Model for Poverty Intervention (see Fig 2.3 above). It is important to note that there will be changes associated with the MMPI. The question is, what changes might occur following adoption of the researcher's SMT's Model? What are likely implications for leadership? As with any radical changes that occur in life, there may be knock on effects. These may include strategic (major) and/or operational (minor) or both side by side. There may also be resistance to change during the SMT Model Implementation Process (Eguruze, *ibid*).

5.5 Research implications of this study: Like climate change, poverty is an existential threat to humanity. This challenge is that poverty is not just for the weak and vulnerable but also for the rich and powerful. If not tackled, there is a potential for social chaos and disintegration across the globe. Until cumulative poverty or extreme poverty is eliminated no-one is safe. Eradicating poverty would save lives. This is a win-win for all (Eguruze, *ibid*). This study provides a learning point for both practitioners, policy makers, and researchers. The paradox is that without tackling the main-root causes, experiences and solutions to poverty at the global level, the current status-quo cannot change.

5.6 Originality of this study: This study has evolved over 22 years. The original thoughts started in 1996 during Dr. Eguruze's first Masters' Degree at University of Greenwich. The researcher revisited the original work as part of his second Masters' degree programme at Brunei University in 2011. Both previous studies were massively updated in a PhD study in 2016 at Cardiff Metropolitan University, as well as in subsequent post-doctoral studies in 2017 and 2019. Hence, it is viewed as a longitudinal study. More recently, the researcher has engaged in some collaboration work with other scholars, providing a further opportunity for evaluation and comparison.

6 Conclusion

The paper found that (i) validation and efficacy are positive ways forward (ii) there appears to be an acute methodological validation limitation relating to these previous studies; (iii) validation of the methodology is needed for it to be applied globally; (iv) this could be achieved by conducting further research, using a new dataset, a larger sample size and a more diverse, global participant sample, (v) overseen by a higher level of institution suitably experienced and qualified in poverty eradication or social policy formulation, such as The University of Oxford and the UNDP; (vi) a scarcity of research model(s) on poverty accepted from the developing world was observed, particularly from countries such as Nigeria/sub-Saharan Africa; (vii) these previous studies would form the basis for this new study; (viii) they create a starting point for further global research, which gives motivation for the current research, (ix) the previous studies have proven demonstrably credible at the regional level and suggest a reasonably optimistic outcome at the global level, (x) pro-poor policies are needed, and (xi) it would help save lives. Validation support is needed to take this research forward.

6.1 Limitations and directions for further research

6.1 Limitations of the study

The findings of this study relate only to tackling poverty in developing countries such as Nigeria, India, and Bosnia, and how policymakers could be influenced to ending extreme poverty/cumulative poverty, from the perspectives of young people and rural community organisations, using social marketing techniques.

Social marketing seeks to ensure constructive social change through persuasive methodologies only. Although social media is an important tool of social marketing, it has been used only as valuable for social marketing communication or a promotional tool in this study. It is important to note this inextricably close relationship between social media and social marketing to avoid misunderstanding/confusing these two important marketing phenomena.

This research is based on the perceptions and opinions of the respondents. Therefore, limitations of opinion surveys need to be appreciated or respected, as the respondents' opinions might not be the same as their actual practice and actions.

6.2 Directions for further research

As the current study did not extend to or cover other developing states or beyond, there is a great potential and scope for more extensive work, achievable by conducting further research, using a new dataset, larger sample size and more diverse, global participant sample.

To seek methods of validating the Methodology model for Poverty Intervention (MMPI), and its efficacy, from the United Nations/World Bank/IMF.

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Old age pensions and economic development Analyzing the economic return of Pension in Mauritius

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Keywords

Economic development, old age pension, Mauritius

Abstract

This paper attempts to assess the impact of social protection, with particular emphasis on old age pension on the economic growth of the island of Mauritius. The study makes use of rigorous time series econometric analysis over the period 1987 to 2018 to gauge if and the extent to which social protection and pension have been productive in the case of Mauritius. Results show that there is a positive and significant relationship between pension and economic growth in Mauritius. The coefficient of 0.123 is a measure of the efficiency of performance of pension concerning GDP creation. It is a measure of output elasticity of pension. A 1% increase in pension is likely to increase economic growth by 0.12%. In the short run, it is observed that there is an insignificant, although positive link, between pension and economic growth. This may indicate that the effects of pensions are felt on economic growth rather in the long run. The negative lagged value of the Error correction term indicates the existence of a long-term relationship and an adjustment of the effect to its long-run estimate. As far as the other determinants of Mauritian economic growth, it is found that it takes time for them to impact economic growth and thus remain essential long-term influencers.

1. Introduction

Worldwide, old age pensions are the largest social protection scheme and are increasingly common across low and middle-income countries. Old age pensions are usually viewed as a cost to the state and, despite their significant impacts on the well-being of older persons, it is rare for them to be understood as investments in economic growth. Yet, there is good evidence that an inclusive old age pension should be a core element of any country's economic growth strategies.

Pensions contribute to economic growth through a range of pathways at household, community and national levels. Within households, they are used to investing in children, tackling stunting and enabling them to attend and perform well in school, thereby helping them become a more effective and productive workforce. Pensioners and their families use the cash they receive to invest in income-generating activities while working-age household members are better able to gain employment, increasing the overall productivity of the labour force. They also enable households to recover their productivity more quickly following shocks. Across communities, the injection of cash into markets can stimulate local economies, with significant multiplier effects. Many entrepreneurs can benefit from the increased economic activity in local markets and there is good evidence of traders, in particular, doing well. Others, including unemployed young people, can sell their labour to pensioners. Governments can also use the payment of pensions to encourage financial service providers to increase their presence in more remote parts of the country.

At the national level, the increased consumption and demand generated by people spending their pensions can be a significant stimulus to national economies, bringing benefits to the business. Inclusive pensions can strengthen social cohesion, generating more peaceful and equitable societies and building an improved investment climate. Universal tax-financed pensions can also underpin contributory schemes, helping them grow their funds and offering resources for large investments in the economy. Furthermore, as the IMF argues, high levels of inequality can hinder growth and old age pensions have proven to be a key tool in reducing inequality.

Figure 1: Pathways through which tax-financed pensions can impact economic growth



Source : <https://www.calpnetwork.org/wp-content/uploads/2020/03/1519919213.Social-pensions-and-their-contribution-to-economic-growth-1.pdf>

Empirically, since the mid-1980s, several studies found that social protection and pensions have increased growth and these studies include the work of Cashin (1994), Castles and Dowrick (1990), Korpi (1985), McCallum and Blais (1987) and Perotti (1992, 1994). Alderman and Yemtsov (2012) also suggested that social protection in LICs and MICs can have positive impacts on aggregate growth. It is noteworthy that these results have been contradicted by Gwartney et al. (1998), Hansson and Henrekson (1994). More recently a few studies depicted the positive link between social protection expenses and economic growth (see Khan and Bashar, 2015; Alper and Demiral, 2016; Ravallion et al., 2018).

This paper attempts to assess the impact of social protection, with particular emphasis on the old age pension, on the economic growth of the island of Mauritius. The study makes use of rigorous time series econometric analysis over the period 1987 to 2018 to gauge if and the extent to which social protection and pension have been productive in the case of Mauritius. Such an analysis is believed to interestingly shed some light on the question of whether expenses on social protection and pensions are worthwhile, from a macroeconomic point of view. The Mauritian government since independence all believe in the importance of old age pension and other social protection schemes both as a social measure and also as an economic investment. This can be witnessed by the continuously increasing support to this sector of the economy in terms of budget allocated (See appendix 1)

The rest of the paper is organized as follows: section 2 discusses the methodology used in modeling the social protection-growth nexus, section 3 discusses the results and section 4 concludes.

2. Methodology

The conceptual model adopted in this study draws from earlier empirical works on economic growth modeling in Africa (refer to Barro and Lee, 2010, Tilak 2003, Gmyiah-Brempong et al, 2006, and Seetanah, 2009 among others) whereby an extended Solow growth model was used. The following functional form is thus specified

$$rdpg = f(\text{invest}, \text{open}, \text{edu}, \text{pen}, \text{cps}) \quad (1)$$

The dependent variable *RGDP* is a measure of countries' GDP (this proxy has been widely used in the literature to measure economic growth, see Mankiw, Romer and Weil (1992) and Barro and Lee (2010) among others). *INVEST* represents the countries' investment ratio and is measured by the ratio of Gross Domestic Fixed Capital Formation to GDP. It adds to the capital accumulation and the productive capacity of the countries and drives increases in productivity and growth in addition to technical progress (Crowder

and Himarios, 1997; Khan and Kumar, 1997; Nazmi and Ramirez, 1997; Yang, 2008). OPEN, measured as the total of export and an import divided by the GDP, is a measure of the openness level. The works of Grossman and Helpman (1991) and Aghion and Howitt (1992) offer theoretical support to the prediction that openness may affect long-run growth through various channels.

Education (EDU) is also included in the model specification, education being an ingredient of growth. Empirical backing exists from Adelakun (2011), Aka and Dumont (2008), Bils and Klenow (2000) and Wheller (1980) for the case of various countries and with Khadaroo and Seetanah (2008) for Mauritius in the long run. It is noteworthy that education is proxied in this research by the secondary enrolment ratio,

A strong consensus has emerged in the last decade that well-functioning financial intermediaries have a significant impact on economic growth,² see King and Levine (1993), Jayaratne and Strahan (1996), Ross and Levine (1997), Chowdhury (1997), Demirguc-Kunt and Maksimovic (1998), Rajan and Zingales (1998), Levine and Zervos (1998), Neusser and Kugler (1998), Levine et al. (2000), Wachtel (2003). Credit to Private sector (CPS) measured by the value of credits by financial intermediaries to the private sector divided by GDP has been employed as a measure of financial development. Data for the above variables were obtained from the World Development Indicator (WDI)¹⁰.

Of interest to us, PEN, is a measure of the amount of pension disbursed on yearly basis to those eligible. The theoretical and empirical link with economic growth has been already discussed hereabove. Pension is measured by the amount of money spent by the government on social protection spent by the government as a percentage of GDP of the country. The data was collected from the Accountant General's annual report (various issues).

The econometric specification of our model is illustrated below.

$$rgdp_t = \beta_0 + \beta_1 invest_t + \beta_2 open_t + \beta_3 edu_t + \beta_4 cps_t + \beta_5 pen_t + \varepsilon_t \quad (2)$$

where t denotes time and small letters denote the natural logarithm of the variables implying a double log-linear specification for estimation and ease of subsequent interpretation.

The time series properties of the data have been tested and the Augmented Dickey-Fuller test (ADF) and Phillips Peron test both suggested that the data were integrated of order one, that is they were only stationary in their first difference (I(1)). In the presence of I(1) variables, a cointegration test is undertaken test for long-run relationships and the Johansen test (The trace test and the maximum eigenvalue test) while determining the number of co-integrating vectors in the system of cointegration confirmed the presence of cointegration in the relationship, with one cointegrating vector. Stock (1987) still argued that even when variables are non-stationary but stationary in the first difference; they may be co-integrated. Such a finding enables the use of an Error Correction Model which will also dwell into long and short-run impact analysis.

Endogeneity issues and the Vector Autoregressive Model (VAR)

There may also exist bi-causal and indirect effects while modeling the social protection-growth link. Levine, Loayza, and Beck (2000) argued that the possibility still exists as the explained variable may have something to do with explaining itself as well, especially when modeling economic growth (see Seetanah et al 2010). As such the possibility of reverse causation also theoretically exists as higher growth rates GDP may imply that a country is more able to allocate funds to social protection being economically better and with higher tax collection capacity. To account for the possibility of reverse causal links as well as dynamics (as economic growth is essentially a dynamic phenomenon and should be modeled as such), the study employs a Vector Autoregressive framework (VAR) and this takes into account the complex links between the various growth determinants and output level, with particular emphasis on social protection. VAR thus combines the traditional VAR approach in a time series, which treats all the variables in the system as endogenous (both in a dynamic and in a static sense), and interdependent while also allowing for unobserved country-specific heterogeneity.

A typical first order VAR model is specified as follows

¹⁰Data were available from the WDI (<http://data.worldbank.org/indicator>)

$$Z_{it} = \Gamma_0 + \Gamma_1 Z_{it-1} + \mu_i + \varepsilon_t$$

$$rdpg = f(\text{invest}, \text{open}, \text{edu}, \text{pen}, \text{cps})$$

Where Z_t is a six-variable vector ($rgdpg, invest, open, edu, pen, cps$) and the variables are as defined previously. Γ_0 is the constant term (vector of time-invariant country-specific intercepts) and Γ_1 is the parameter/coefficient (matrices of the lagged coefficient) and ε is the error term (vector of idiosyncratic disturbances). In the presence of co-integration, the Vector Error Correction Model becomes the appropriate framework to analyze the pension-growth nexus and it allows the assessment of both long and short-run effects. The lag order of the VECM is selected based on the Schwarz Information Criterion. The estimates of the relevant coefficients are presented and discussed in the next section.

3. Estimation and analysis

Vector error correction modeling estimates: Long Run Estimates

Table 1 reports the results of the long-run estimates (1989-2018)

Variable	Coefficient	t-ratio
LNPEN	0.124	2.81 ***
LNEDU	0.654	2.44***
LNOPEN	0.435	5.35**
LNINVEST	0.705	2.93***
LNCPS	0.55	3.44**
c	1.47	1.454

Results from table 1 show that there is a positive and significant relationship between pension and economic growth in Mauritius. The coefficient of 0.123 is a measure of the efficiency of performance of pension concerning GDP creation. It is a measure of output elasticity of pension. A 1% increase in pension is likely to increase economic growth by 0.12%. Khan and Bashar (2015) found that social expenditures had a positive influence on economic growth in Australia and New Zealand. Using a sample of 18 OECD countries, Alper and Demiral (2016) concluded the positive link between social expenses and economic growth. For developing countries, Ravallion et al. (2018) depicted a positive relation between social protection and economic growth.

Such results are in line with the theoretical underpinnings of the social-protection- growth nexus. Indeed, pensions are crucially used to invest in children and education while pensioners and their families use the cash they receive to invest in income-generating activities and working-age household members are better able to gain employment, increasing the overall productivity of the labour force. As such, the injection of cash through pensions can stimulate local economies, with significant multiplier effects. At the national level, the increased consumption and demand generated by people spending their pensions has often been posited to be a significant stimulus to national economies, bringing benefits to the business. Old-age pensions have also been proven to be a key tool in reducing inequality.

It is noteworthy that the reported estimate is relatively lower than the other ingredients of growth, with investment being the most important ingredient in growth in the long run. The other determinants of growth are confirmed to be important elements as witnessed by their sign, size and significance of their coefficient.

Vector error correction modeling estimates: Short Run Estimates

Given that the variables under consideration were only stationary in the first difference and co-integrated, we formulated and estimated a VECM. By construction, the VECM specification forces the long-run behaviour of the endogenous variables to converge towards their co-integrated relationships, which includes short-run dynamics. The estimated error-correction equations pass the residual autocorrelation at the 5 percent significance level and are represented in Table 3. The variables in the system are all endogenous, given that the lagged error-correction term of the VECM is significant. To check for model specification, four diagnostic tests are imposed. First, the Lagrange Multiplier test for residual serial correlation finds no evidence of serial correlation even though the lag is extended to 8. The residuals are also multivariate normal. The null hypothesis of normality fails to be rejected for skewness, kurtosis and Jarque-Bera tests. Besides that, the homoscedasticity of the residuals also fails to be rejected for both joint

and individual tests. To note that the lagged error-correction term is significant, implying that growth is a dynamic phenomenon.

Table 2: VECM Estimates: Short Run estimates

Error Correction:	D(LNRGDP)	D(LNSOCP)	D(LNOPEN)	D(LNEDU)	D(LNCPS)
CointEq1	-0.081801 (0.00955) [-8.56555]	0.032367 (0.02333) [1.38714]	0.028797 (0.01630) [1.76689]	0.016173 (0.00304) [5.32262]	-0.018784 (0.02396) [-0.78400]
D(LNRGDP(-1))	0.019922 (0.20822) [0.09568]	-0.008287 (0.50871) [-0.01629]	-0.189560 (0.35533) [-0.53348]	-0.004485 (0.06625) [-0.06770]	0.134713 (0.52237) [0.25789]
D(LNPEN(-1))	0.047657 (0.07107) [0.67056]	0.353027 (0.17364) [2.03316]	-0.055668 (0.12128) [-0.45899]	-0.044906 (0.02261) [-1.98594]	0.063373 (0.17829) [0.35544]
D(LNOPEN(-1))	0.152375 (0.12103) [1.25904]	-0.138364 (0.29569) [-0.46795]	-0.166972 (0.20653) [-0.80845]	0.042335 (0.03851) [1.09943]	0.038870 (0.30362) [0.12802]
D(LNEDU(-1))	0.371091 (0.38973) [0.95217]	2.349057 (0.95218) [2.46702]	-0.482561 (0.66509) [-0.72556]	-0.306360 (0.12400) [-2.47067]	0.444120 (0.97774) [0.45423]
D(LNCPS(-1))	0.077549 (0.18112) [0.42816]	0.004677 (0.44251) [0.01057]	-0.365985 (0.30909) [-1.18409]	-0.154248 (0.05763) [-2.67672]	0.147843 (0.45438) [0.32537]
C	0.021680 (0.01930) [1.12352]	0.054924 (0.04714) [1.16504]	0.004289 (0.03293) [0.13025]	0.030995 (0.00614) [5.04857]	0.005308 (0.04841) [0.10964]
R-squared	0.547370	0.392582	0.150680	0.668162	0.049846
Adj. R-squared	-0.475055	0.234125	-0.070882	0.581595	-0.198020
F-statistic	2.662559	2.477529	0.680082	7.718479	0.201100

In the short run, it is observed that there is an insignificant, although positive link, between pension and economic growth. This may indicate that the effects of pensions are felt on economic growth rather in the long run. The negative lagged value of the Error correction term indicates the existence of a long-term relationship and an adjustment of the effect to its long-run estimate. As far as the other determinants of Mauritian economic growth, it is found that it takes time for them to impact economic growth and thus remain essentially long-term influencers.

4. Conclusions

This paper attempts to assess the impact of social protection, with particular emphasis on old age pension on the economic growth of the island of Mauritius. The study makes use of rigorous time series econometric analysis over the period 1987 to 2018 to gauge if and the extent to which social protection and pension have been productive in the case of Mauritius

Results from table 1 show that there is a positive and significant relationship between pension and economic growth in Mauritius. The coefficient of 0.123 is a measure of the efficiency of performance of pension concerning GDP creation. It is a measure of output elasticity of pension. A 1% increase in pension is likely to increase economic growth by 0.12%. Such results are in line with the theoretical underpinnings of the social-protection- growth nexus. Indeed, pensions are crucially used to invest in children and education while pensioners and their families use the cash they receive to invest in income-generating activities and working-age household members are better able to gain employment, increasing the overall productivity of the labour force. As such, the injection of cash through pensions can stimulate local economies, with significant multiplier effects. At the national level, the increased consumption and demand generated by people spending their pensions has often been posited to be a significant stimulus to national economies, bringing benefits to the business. Old-age pensions have also been proven to be a key tool in reducing inequality.

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With the aging population issue and the important debate of whether or not to maintain all social protection benefits (especially pensions), policymakers should also be taking into account the fact that these expenses have a positive influence on economic growth on balance. If the social protection expenses are well planned, these should normally be at the benefit of the countries, taking into account that the pensions budget may constitute pressure on the budget.

5. References

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Appendix 1

Table 1: Pensions paid & GDP per capita (PPP)1987-2018

Year	Amount paid (RsMn)					Total Social spending	GDP Per Capita (PPP_
	Basic Pension	Retirement	Basic Widow's Pension	Basic Invalid Pension	Basic Orphan Pension		
1987-1988	276.07	-	-	-	-	276.07	8776.615
1990-1991	541.36	-	-	-	-	541.36	10109.5
1994-1995	982.65	-	-	-	-	982.65	11886.15
1999-2000	2,208.45	451.16	484.93	10.22	3,154.76	13374.63	
2004-2005	3,486.24	639.43	867.15	14.11	5,006.93	16961.68	
2010	6,612.26	885.50	1,312.33	23.37	8,833.46	21436.28	
2015-2016	14,096.08	1,454.15	2,322.00	35.52	17,907.75	23092.66	
2016-2017	15,359.56	1,482.03	2,558.61	35.29	19,435.49	23777.04	
2017-2018	16,809.63	1,525.78	2,706.17	34.81	21,076.39	24953.4	

Investigating the effect of augmented reality on customer brand engagement: The mediating role of technology attributes

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Keywords

Augmented reality, Customer brand engagement, Interactivity, Novelty Technology acceptance model, Vividness.

Abstract

Increasing customer participation and engagement with the brand has become prominent to increase customer brand experience along the customer journey. Technological advancement and the growth in Augmented reality (AR) provide marketers with promising opportunities to engage customers. This study investigated the effect of augmented reality on customer brand engagement (CBE); the technology attributes based on the Technology acceptance model (TAM); perceived usefulness, perceived ease of use, and enjoyment were used as a mediator. An experiment was conducted on females in Egypt on a cosmetic AR Mobile application. Structural equation modelling (SEM) was employed to identify the relationships of AR attributes, technology attributes, and customer brand engagement. All the hypotheses were statistically supported. The findings confirmed that augmented reality attributes positively affect customer brand engagement. Additionally, perceived usefulness, perceived ease of use, and enjoyment mediated the indirect and positive effects on CBE. The research provides marketers with practical implications for using AR technology.

1. Introduction

Advances in new technologies are dislocating marketing and the marketplace. New innovations in particularly augmented reality, virtual reality, internet of things and artificial intelligence have many implications in marketing practices. Along with this growth in virtual technology, Augmented reality (AR) is a major growing area of interest within the field of marketing.

Augmented reality (AR) is one of the contemporary concepts that are concerned with the wide usage of technology in digital marketing. It has emerged as a technology capable of superimposing video, images, text, and audio components onto existing images or space (Yusoff, et al., 2018). It enables the real-time combination of digital and physical information via various technological designs such as smartphones, tablets, and computers to create this new reality, which has had an impact on the number of AR applications (Almenara, et al., 2019).

The increasing prevalence of smartphones has significantly increased the interest of developers, retailers, and consumers in augmented reality. A few years ago, mobile augmented reality emerged as a new breed of AR. Users of mobile Augmented Reality applications can view a heads-up display-style AR image of data relevant to their immediate surroundings by holding up their phone (Arol, 2014; Baratali, et al., 2016). and many retailers are now incorporating augmented reality features into their mobile applications (Dacko, 2017; Wilson & McLean, 2019). Numerous brands use AR to give their customers a different perspective and to impact consumers' buying decisions (Pantano, 2014; Javornik, 2016; Heller, et al., 2019), and to improve the realistic experience of their products such as Ray-Ban, Sephora, American Apparel, Burberry and Top shop (Wilson & McLean, 2019). Mobile Augmented Reality Apps are designed to provide rich services, applications, and functionality to mobile phone users on top of physical reality. Such applications incorporate real images, video, or scenarios into them by utilizing the phone's camera, touch screen element, GPS, and other sensory and motion detectors (Baratali, et al., 2016).

AR is a marketing goldmine that every company should be utilizing to capture the attention of consumers. The technology provides an interactive experience, increases brand loyalty, and is enjoyable to

use .AR can be inserted into magazines, newspapers, books, billboards, and even stores as a point of promotion to increase sales (Baratali, et al., 2016).

Javornik (2016) conceptualize augmented reality's potential for engaging customers and influencing their purchase intentions. AR's unique capabilities provide marketers with new ways of engaging customers and transform the brand experience. Scholars identified four broad uses of the technology in retail settings: to educate customers, to entertain, to assist them in evaluating product fit, and to improve the post purchase consumption experience (Tan, et al., 2022).

Moreover, AR provides companies with creative ways to interact with customers and to promote their products and can be integrated with multiple marketing channels. It is highly interactive for consumers; It shifts how consumers shop online as it enables the consumer to view the product, try it and engage with the brands close and personal before buying it. This shows that AR can increase sales, customer loyalty as a result of improving customer experience which in turn increase profitability.

Increasing customer participation and engagement with brands has become prominent (Hollebeek, 2011). Marketers seek customer engagement (CE) because it results in appealing outcomes such as increased brand awareness (Erkan, 2015) trust, loyalty, self-brand connections, and emotional brand attachment (Brodie, et al., 2013; Brodie, et al., 2011). To engage users, social media sites employ various indicators of customer engagement behavior, such as "likes" on Facebook and "hearts" on Instagram (Wang & Lee, 2020).

According to (Graffigna & Gambetti, 2015) customer brand engagement (CBE) is a new topic as a part of CE that plays a major role in marketing and that more research is needed due to its importance in strategic brand decisions. Prior research (Wang, et al., 2018; Shiao & Yang, 2017; Shareef & Dwivedi, 2018; Halaszovich & Nel, 2017), assert that CBE are still needed further analysis. (Brodie, et al., 2011; Hollebeek, 2011; Hollebeek et al. 2011) were the first to examine CBE's core tenets (Algahrabat, et al., 2020). Hollebeek, et al.,(2014) defined customer brand engagement (CBE) as the ability to induce a specific emotional response from consumers in response to the featured brand. The authors contend that CBE improves communication between the social media platform and its customers, leading to more opportunities for customers to collaborate on content creation (Algahrabat, et al., 2020).

The present study will make a significant contribution by investigating the effect of augmented reality (AR) on customer brand engagement (CBE). The technology acceptance model (TAM) with three dimensions: perceived usefulness, perceived ease of use, and enjoyment was used as a mediator. Hence, within the context of mobile augmented reality, the current study will investigate the effect of interactivity, vividness, and novelty as augmented reality attributes. The research paper has three objectives:

Develop an understanding of the use of augmented reality in marketing and how can marketers make sense of AR as a marketing tool?

Investigate the effects of augmented reality (AR) on customer brand engagement.

Examine the relationship between AR attributes, technology attributes and customer Brand engagement.

2. Theoretical background and research hypotheses

2.1 Augmented reality

Faust et al. (2012) defined augmented reality (AR) as "The superposition of virtual objects (computer generated images, texts, sounds, etc.) on the real world of the user's environment" (Faust, et al., 2012, p. 1164).

Augmented reality is defined by (Olsson, et al., 2013), as a technique that combines real and computer-generated digital information into the user's view of the physical world so that they appear as a single environment. AR combines the virtual and real worlds (Huang & Liao, 2015) via a virtual layer that can add images, text, videos, and other virtual elements to the user's real-time view of the physical environment (Carmingniani, et al., 2011). Augmented reality is quite similar to other forms of digital technology in the sense that it is mostly accessed through mobile devices such as smartphones and offers a high level of interactivity for end users. However, augmented reality is quite distinct from conventional marketing methods. The development of real-life simulations is made easier with the help of virtual reality technology, which also produces an immersive experience for users, giving them the impression that they are truly interacting with the digital environment they are in (Yim, et al., 2017).

AR-related research has grown in the last few years, with some scholars focusing on users' AR usage behaviors (Scholz & Smith, 2016; Poushneh & Parraga, 2017; Alexander Jessen, et al., 2020) and others investigating the potential of AR in the marketing field and user needs (Rauschnabel, et al., 2019; Kazmi, et al., 2021). It has been found that AR technology strongly influences user experience via numerous aspects that affect product quality, and satisfaction and purchase intention are also influenced by this (Poushneh & Parraga, 2017). To sum up, (Smink, et al., 2019) argue that, in a marketing context, the advantages of consumer use of AR outweigh the risks and also positively influence brand response. What makes augmented reality stand out from other technologies is the exciting new ways it allows brands and stores to interact with customers (Javornik, 2016; Yim, et al., 2017; Chen, et al., 2022).

2.2 Augmented reality attributes

According to Azuma (1997) AR has three distinct media features: It "combines real and virtual", is "interactive in real time", and is "registered in 3-D" (Azuma, 1997, p. 2) Accordingly (Wilson & McLean, 2019) introduced a set of Augmented reality attributes: AR Interactivity, AR vividness and AR Novelty.

2.2.1 Interactivity

Interactivity can be found in all human behaviors (Heeter, 2000). Interaction with people, the environment, advertising, the Internet, and a vast array of other items is the essence of interactivity, which is why it is utilized in virtually every field. Interactivity is often used in academic research, but the operational definitions are sometimes too broad and inconsistent (Kiousis, 2002). The most important aspect of AR is the integration of the user's physical and virtual worlds. The user will notice the integration of virtual and real images, with this special presentation technology being one of AR's distinguishing features (Azuma, 1997; Chen, et al., 2022).

Interactivity can be defined in numerous ways; however, (Yim et al., 2017) present a comprehensive definition of interactivity that enables understanding of its function in the operationalization of AR effectiveness: (1) as a technology output; and (2) as a user perception. Interactivity is defined by scholars who emphasize the significance of technological characteristics as a result of the properties of the technology (Downes & McMillan, 2000; Steuer 1992), as the technology's ability to enable users to interact with and engage with content more easily (Hoffman & Novak, 1996). Prior study has also uncovered a new facet of interactivity that has been dubbed "communication." This facet is defined as the means via which users feel a website is capable of two-way communication (Song & Zinkhan, 2008).

Scholars have recently classified interactivity as an AR characteristic, arguing that the ability to interact with virtual objects or the environment while using AR stimulates users' cognitive awareness of information, thereby increasing satisfaction or engagement (McLean and Wilson, 2019; Yim et al., 2017). When referring to augmented reality (AR) content, the term "interactivity" refers to the ability of users to control what they see in a hybrid of the real and virtual worlds (Wilson & McLean, 2019). Interactivity can be created when consumers are willing to associate themselves with augmented reality technology. The use of AR makes shopping more fun and engaging for customers, which in turn increases their level of participation (Sheehan, 2018). AR interactivity grants users the ability to manipulate the forms and contents of the mediated environment in real time, in addition to providing them the opportunity to interact with content (Hoffman and Novak, 2009; Arghashi & Yuksel, 2022).

Generally, when a customer discovers an application that is not only user-friendly but also engaging, this can improve the customer's engagement with the brand regardless of the smart device or application being used. It is necessary to have some level of literacy in order to use these devices and applications.

2.2.2 Vividness

Vividness refers to "a technology's ability to produce a sensory-rich mediated environment" (Steuer, 1992, p. 80). It combines "sensory experience with actual objects" and "hallucination," or "nonsensory experience with imaginary objects" (Lee, 2004, p. 38). "Realness," "realism," and "richness" are some of the terms that have been used by other academics to describe this idea (Sadowski and Stanney 2002; Witmer and Singer 1998).

In the context of e-commerce, vividness has frequently been perceived as the quality of product presentations (Jiang & Benbasat, 2007; Yim, et al., 2017).

Past research on consumer imagery has shown that consumers pay more attention to visually stimulating content about products than they do to textual or visually inert content about those products (Jiang & Benbasat, 2007). This means that consumers are better able to understand the product and that the likelihood of the product failing to meet expectations and the consumer being dissatisfied after purchase is decreased when more detailed and vivid information is provided (Jiang and Benbasat, 2007; Li and Meshkova, 2013).

In the research on augmented reality, some scholars have identified vividness as a characteristic of augmented reality, believing that the experience of virtual environments or objects in augmented reality can stimulate users' fun, imagination, and enjoyment, thereby influencing their purchase intent or increase their involvement (McLean and Wilson, 2019; Yim et al., 2017). In summary, vividness is frequently used to quantify the degree of vividness experienced by individuals. Consequently, this study considers vividness as an AR characteristic that is expected to impact customer engagement.

2.2.3 Novelty

Scholars define novelty as the quality of being novel, distinct, and original (Masseti, 1996). AR combines the real and virtual worlds to provide users with a continuous and unique experience, with the possibility of experiencing new fun and excitement each time the AR feature is used. Text, images, videos, and other virtual objects can be used to present AR content (Javornik, 2016; Chen, et al., 2022). Given the scope and depth of interaction between the real and virtual worlds, the user is likely to be exposed to new stimuli each time they use an augmented reality feature. Thus, novelty does not refer to the 'newness' of augmented reality; rather, novelty refers to the new, unique, customized, innovative material (stimuli) encountered each time through the augmented reality display (Wilson & McLean, 2019).

Additionally, the screen provides detailed product information for the convenience of consumers. The unique novelty of the augmented reality application may improve the user's performance, generate interest in browsing the products, and stimulate shopping. As a result, it enables consumers to tailor content to their preferences and increase engagement (Chen, et al., 2022).

In summary, novelty is adequate for measuring the degree of uniqueness experienced by users after an experience; as the most significant point in which novelty influences information processing is through the attention it generates in its audience (Kover and James 1993; Lang 2000; Thorson and Lang 1992).

The most significant point in which novelty influences information processing is through the attention it generates in its audience (Kover and James 1993; Thorson and Lang 1992). Therefore, this study considers novelty as a state of experience that is also significantly related to the customer engagement

Based on the relevant literature discussed above, the study expects that AR attributes provided by AR Mobile apps will affect Customer brand engagement. Therefore, the following research hypotheses are proposed:

H1: AR attributes positively affect Customer Brand engagement

H_{1a}: AR interactivity positively affects customer brand engagement.

H_{1b}: AR vividness positively affects customer brand engagement.

H_{1c}: AR novelty positively affects customer brand engagement.

2.3 Model of Technology Acceptance (TAM)

Consumer acceptance of a new technology is crucial to its market success (Rese, et al., 2017). Several studies have been conducted over the last five years by researchers all over the world to investigate the acceptance of AR in retail using various types of AR applications. Theories such as Technology Acceptance Model (TAM) (Wilson & McLean, 2019), flow theory (Huang & Liao, 2015) equity theory (Poushneh and Parraga, 2017; Poushneh, 2018), virtual liminoid theory (Huang and Liao, 2017), self-referencing theory (Huang and Tseng, 2015; Huang & Liao, 2015; Huang, 2019), theory of interactive media effects (Javornik, 2016) excitation-transfer theory (Poncin, et al., 2017) prospect theory (Perannagari & Chakrabarti, 2019) among others, were the base for constructs used in these studies (Perannagari & Chakrabarti, 2019).

Davis (1989) developed the "Technology Acceptance Model," or TAM, in 1986. It was based on the psychological theory of "Reasoned Action" by Ajzen and Fishbein (1980), which aimed to predict an

individual's behaviour as a function of their intentions and attitudes. It suggested that two variables determined one's attitude or predisposition toward the intention to use a technology: perceived usefulness and perceived ease of use as cited in (Almenara, et al., 2019). The majority of studies revealed that TAM relationships are valid for AR apps (Spreer & Kallweit., 2014; Huang and Liao, 2015; Pantano et al., 2017 (Wilson & McLean, 2019). Despite the fact that research has identified many factors that contribute to technology acceptance, but it is not necessarily the acceptance of brand's technology (Wilson & McLean, 2019). Prior research studied the applicability of TAM in the context of retailing and AR (Olsson, et al., 2013; Rese et al., 2017; Wilson & McLean, 2019) consequently, the TAM Model is eligible for the research.

2.3.1 Perceived Ease of Use

"Perceived ease of use"(PEOU) refers to a consumer's belief that AR applications are simple to use and thus require little training (Davis, 1989). As a result, PEOU has a direct impact on hedonic and utilitarian values. (Chun, et al., 2012;Yang, 2013) demonstrated this phenomenon by demonstrating that PEOU had a causal effect on consumers' assessments of the utilitarian value of online apps. (Phuthong, 2022). As a result, the following hypotheses were proposed:

H2a: *Perceived Ease of use will positively mediate the effect of interactivity of AR apps. on customer brand engagement.*

H2b: *Perceived ease of use will positively mediate the effect of AR vividness on customer brand engagement.*

H2c: *Perceived ease of use will positively mediate the effect of AR novelty on customer brand engagement.*

2.3.2. Perceived Usefulness

According to Davis (1989), perceived usefulness of technology is defined as "The users' belief that a specific technology will improve their current performance". It is frequently acknowledged as a fundamental construct in user adaptation to new technology (Arghashi & Yuksel, 2022) When people recognize that a specific technology (for example, AR apps) is useful, they have a positive attitude toward it. Therefore, perceived usefulness has a substantial effect on consumer attitude toward AR technology (Chung, et al., 2015). Yim et al. (2017) demonstrated that augmented reality apps are regarded to be more useful than regular apps. According to Rese et al. (2017), perceived usefulness influences customer attitudes and intent to utilize augmented reality. According to Pantano et al. (2017), consumer attitudes toward augmented reality (AR) are positively correlated with the perceived usefulness of augmented reality (AR) apps in online retail contexts. When consumers view AR apps as a useful purchasing tool, they will view AR technology as more suitable and, as a result, have a more favourable attitude toward it (Holdack, et al., 2020).

Previous research has found that people become interested in AR technology because it is useful. According to McLean and Wilson (2019), AR features directly affect perceived usefulness of AR technology, which in turn increases consumer engagement via AR. apps. This study discovered that the perceived usefulness of augmented reality (AR) influences brand engagement via a retailer's AR app. According to Davis (1989), perceived usefulness is a precursor factor for consumer adaptation to technology (Davis, 1989). According to Moriuchi (2019), perceived usefulness improves consumer engagement with technology by encouraging consumers to use more of a specific technology. As a result, it is plausible to assert that perceived usefulness is positively related to attitude toward technology and trust in it, which can account for more variation in consumer engagement with technology. As a result, hypotheses are proposed as follows:

H3a: *Perceived usefulness will positively mediate the effect of AR interactivity on customer brand engagement.*

H3b: *Perceived usefulness will positively mediate the effect of AR vividness on customer brand engagement.*

H3c: *Perceived usefulness will positively mediate the effect of AR novelty on customer brand engagement.*

2.3.3 Enjoyment

Perceived enjoyment (PE) refers to the hedonic value of new technology and explains how joyful its use is for participants. It seeks to explicate a user's fundamental motivation, so as to promote future technological adoption (Pantano, 2014). In the context of this study, enjoyment refers to the activity of

utilizing a particular system that is fun and interesting in and of itself, apart from the performance consequences of doing so Pantano, (2014.) As AR enables Users to interact with the product and try it; envision the look of a product on themselves, as a result, AR usage may have a substantial effect on customer brand engagement. Accordingly, the following hypotheses were derived as follows:

H4a: *Enjoyment will positively mediate the effect of AR interactivity on customer brand engagement.*

H4b: *Enjoyment will positively mediate the effect of AR vividness on customer brand engagement.*

H4c: *Enjoyment will positively mediate the effect of AR novelty on customer brand engagement.*

2.4 Customer Brand Engagement

The rise of social media contributed to a change in the balance of power and the production of value away from businesses and toward consumers (Berthon, et al., 2012). It has been noticed that people's search for information and socializing habits, as well as their consumption patterns, have undergone significant shifts (Wang & Lee, 2020). As a result, communication technology has a significant impact on customer-firm relationships. Rather than merely being consumers of goods and services, customers have the potential to contribute to the creation of new ones. Consumers' interactions with brands in the social media context require businesses to study how they consume, contribute to, and generate content. Therefore, figuring out how to create and manage engagement between customers and brands via social marketing should be an issue of vital concern (Wang & Lee, 2020).

According to research carried out (Brodie , et al., 2011), customer engagement (CE) functions as a strategic factor and makes a significant contribution to the achievement of superior performance outcomes (Hollebeek, et al., 2014). In order to maintain a competitive edge, it has become necessary to involve customers in specific interactions and interactive experiences in order to establish and enhance customer relationships (Brodie, et al., 2013).

According to Brodie, et al.,(2013) Customer engagement with a business is defined as a dynamic, iterative psychological state. It can be seen in the creation of communities of users that work together to develop content and value that better serves their needs (Sashi, 2012; Pansari and Kumar, 2017; Gligor & Russo, 2019).

Customer brand engagement (CBE) has gained increased attention from both industry and academia in recent years. Technological advances have enabled businesses to provide customers with tools to interact with their brand, such as websites, social media platforms, and mobile applications (Osei-Frimpong & McLean, 2018; Wilson & McLean, 2019).

The number of empirical studies in the CBE area is limited (e.g., Brodie et al., 2013; Hollebeek et al., 2014; Leckie et al., 2016; Martnez-López et al., 2017; Schultz, 2017) and they lack an overall definition of and conceptualization of customer brand engagement (Dessart, et al., 2016). Brand engagement is described by Mollen and Wilson (2010) as "the affective and cognitive commitment of an active relation with an individual brand via a website or computer-mediated devices meant to communicate the value of the individual brand." (Algahrabat, et al., 2020). A collaborative association with a specific brand, as well as the view of experiential motivation notwithstanding the instrumental incentives to be received from communications with the brand (Abrar, 2019).

Hollebeek et al. (2014) have researched brand engagement from the customer's perspective and provided a clear definition of CBE that explains how customers could cognitively valence and emotionally and behaviorally react to all brand activities conducted on social media platforms (Algahrabat, et al., 2020). As a result, customers who shop online are more invested in the success or failure of a particular company (Kim & Forsythe., 2008). Consumers' engagement with a brand not only boosts their overall brand engagement, but it may also help increase the sales of an organization. In addition, it has its roots in relationship marketing that promotes customer interaction and experiences (Vivek, et al., 2012; Abrar, 2019).

Customers can become more engaged and creative when identifying new and valuable consumption options utilizing augmented reality (Wang & Lee, 2020). Existing augmented reality (AR) applications often aim to facilitate engagement (Scholz & Smith, 2016), such as through playful, immersive, and enjoyable experiences in which users try out various purchase alternatives in a range of situations (Scholz & Duffy, 2018). In addition, empirical research has revealed the favorable benefits of augmented reality on customer engagement (Wang & Lee, 2020).

Furthermore, enhancing the client experience and enhancing brand effects are both made possible by augmented reality (Rauschnabel et al., 2019; Smink et al., 2019). It has been shown that augmented reality features and technological acceptance attributes such as perceived usefulness have a substantial effect on brand engagement with augmented reality apps. Consumer happiness and brand usage intent were found to be boosted by AR. AR's perceived usefulness has been argued to have a positive effect on consumers' attitudes and intentions to use it. According to McLean (2018), the perceived usefulness of mobile branded apps is a major determinant of user engagement. In this regard, the current research will examine the direct effect of AR Attributes on customer brand engagement on AR mobile apps and the indirect effect mediated by the technology attributes. The following hypotheses are proposed as follows:

H5: Perceived ease of use will positively affect Customer brand engagement

H6: Perceived usefulness will positively affect Customer brand engagement

H7: Enjoyment will positively affect Customer brand engagement

2.5 Research Model

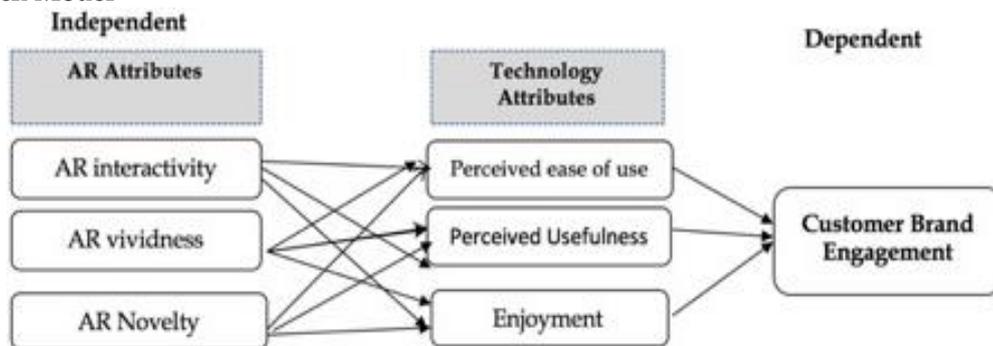


Fig.1 Conceptual Model

3. Research methodology

The researcher used Structural Equation model (SEM) with the use of AMOS 26.0 in testing the direct and indirect path analysis for the effect of AR attributes on customer brand engagement in the presence of technology attributes as a mediator variable. The researcher measures AR attributes through three main attributes which are: interactivity, vividness and novelty, also the technology attributes consist of three main attributes which are: perceived ease of use, perceived usefulness, and enjoyment.

3.1 Research Design

An experiment was conducted. Data were collected from alumni who attended an event at the university's theatre. Females were invited to take part in the experiment. The experiment was conducted on two phases. In phase 1, the researcher began by greeting participants and informing them about the study. By scanning the QR code, they were given detailed instructions. Then they were instructed to download the Oriflamme Mobile app "Makeup Wizard" where the theatre's WIFI was enabled. In Phase 2, participants use the app to browse makeup products and try them on. After 10 minutes, participants were asked to take an online questionnaire via a link in order to ensure that they had the opportunity to try at least 5 different products.

3.2 Sample

Convenience sampling was selected, and the researcher has succeeded to collect 111 valid responses to be an appropriate sample size in order to be analyzed. The participants of the study were recruited during an alumni event at the university. Participants were invited to join the experiment. Followed by the questionnaire.

3.3 Measures

The researcher employed a 36-item questionnaire designed on a 5-point Likert scale (Strongly agree, agree, neutral, disagree and strongly disagree). The questionnaire was administrated online via a link after the participants were exposed to the stimulus (AR App.) Which is the "Makeup Wizard". To comply with

common method bias, most of the statements were positively stated to reduce respondents' apprehension. Few statements were reversed scored to ensure the accuracy and validity of the responses. Moreover, the participants were informed that their identity will remain confidential and that the collected data will only be used for the purpose of research. The following Table (1) shows the scales used for the purpose of the research.

Construct	Number of items	Sources	Sample items
Interactivity	3	Yim et al. (2017)	The augmented reality technology had the ability to respond to my specific needs quickly and efficiently
Vividness	6	Yim et al. (2017)	The visual display through the AR technology was vague (R)
Novelty	4	Yim et al. (2017)	Using the augmented reality feature offers something new each time
Perceived ease of use	6	Davis (1989)	Learning to use the AR feature on the app is easy for me
Perceived Usefulness	6	Davis (1989)	Using the AR feature on the app would make it easier to shop.
Enjoyment	3	Davis et al. (1992)	I have fun using the AR feature on the app
Customer Brand Engagement	8	Hollebeck et al.(2014)	I spend a lot of time using the AR feature on the Oriflamme's app compared to other

Table (1) Scale Items

4. Results and Data Analysis

4.1 Demographic Analysis

Demographic		Frequency	%
Age groups	18-24	29	26%
	25-34	55	49.5%
	35-44	25	22.5%
	45-54	1	0.9%
Education	University graduate	79	71.1
	Undergraduate	28	25.2
	Postgraduate	4	3.6

Table (2) Demographic characteristics of the respondents (N=111)

Table (2) shows that about half of the sample 55 person their age ranged between 25 and 34 years old, 29 person their age ranges from 18 to 24 years old, 25 person their age ranged from 35 to 44 years old and finally there are two persons one of them his or her age lies between 45 to 54 years old and the other one has 55 years old. The majority of sample 79 persons are university graduate, 28 persons are undergraduate and there are only 4 persons have a postgraduate degree.

Variable	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
Interactivity	1.33	5.00	3.9399	1.06856	0.271212
Vividness	1.17	5.00	3.8468	1.07006	0.278164
Novelty	1.25	5.00	3.8694	1.01346	0.261918
Perceived ease of use	1.17	5.00	3.8724	1.08571	0.280373
Perceived Usefulness	1.17	5.00	3.9264	1.08355	0.275964
Enjoyment	1.33	5.00	3.9489	1.06477	0.269634
Customer Brand Engagement	1.25	5.00	3.8773	1.07621	0.277571

Table (3): Variables descriptive analysis

4.2 Reliability and validity tests

Cronbach's Alpha coefficient was used to measure the consistency of a measure and the degree of study variable's reliability. As shown in Table (4) that there is a high level of reliability for the responses for each variable as the Cronbach's Alpha coefficient for each variable are all greater than 0.7 (Hair, et al., 1998). The composite reliability (CR) was calculated to achieve more accurate reliability for the structural equation model (SEM), the results showed that for each set of indicators all the constructs are greater than the 0.7. The convergent validity was tested using the average variance extracted and all the AVE values were greater than 0.5 thus establishing convergent validity (Fornell & Larcker, 1981).

Variable	Number of statements	Cronbach's Alpha	Average Variance extracted (AVE)	Composite Reliability
Interactivity	3	0.989	0.9639	0.929
Vividness	6	0.989	0.9732	0.947
Novelty	4	0.989	0.9682	0.937
Perceived ease of use	6	0.988	0.9818	0.964
Perceived Usefulness	6	0.989	0.9713	0.943
Enjoyment	3	0.990	0.9601	0.922
Customer Brand Engagement	8	0.987	0.9863	0.973

Table (4): Reliability and Validity of measures

As shown in table 4, it is concluded that there is a high level of reliability and validity for the responses for each variable as the Cronbach's Alpha test show high level of reliability as its values for each variable is 0.98 which is greater than 0.7, the Average Variance extracted (AVE) for the 7 variables has a value of 0.9721 which is greater than 0.5 and the average Composite Reliability is 0.9918 which is greater than 0.7.

4.3 Test of normality

The researcher applied Shapiro-Wilk test to determine whether the main variables of study follow the normal distribution or not.

Variable	Statistic	DF	P-value
Interactivity	0.773	111	0.000
Vividness	0.776	111	0.000
Novelty	0.793	111	0.000
Perceived ease of use	0.777	111	0.000
Perceived Usefulness	0.768	111	0.000
Enjoyment	0.768	111	0.000
Customer Brand Engagement	0.767	111	0.000

Table (5): Shapiro-Wilk test of normality

From table (5) it is concluded that all the independent, dependent and the mediator variables are not normally distributed as their p-value of Chi-square statistic is less than 0.05, so the alternative hypothesis will be accepted that the variables are not follow the normal distribution.

4.4 Heteroscedasticity Test variables Homogeneity

Overall test of Heteroscedasticity	Chi-square	P - value
	3.983088	0.031254

Table (6): Heteroscedasticity test for Homogeneity

The above table shows that the chi-squared test of value 57.485436 has a p-value of 0.031254 which means accepting the null hypothesis which means that the study model does not suffer from the problem of random error instability and the study variables are endogenous to each other's.

4.5 Variance Inflation Factor (VIF) test

In order to assess the multicollinearity of each variable, the Variance Inflation Factor (VIF) analysis was assessed. The test has a minimum possible value equals to 1.0 and the values greater than 10.0 indicate a collinearity problem. As shown in Table (7) it is concluded that there is no variable suffers from multicollinearity as the VIF values don't exceed 10.

Variable	VIF
Interactivity	1.721
Vividness	5.192
Novelty	3.158
Perceived ease of use	8.798
Perceived Usefulness	3.371
Enjoyment	8.553

Table (7): VIF of the independent and control variable

4.6 Correlation Matrix

Following the test of normality for the main dimensions of the independent, mediator and the dependent variables of study, it was found that the study variables don't follow the normal distribution, therefore Spearman correlation coefficient will be the most appropriate coefficient for determining the relation strength and direction between each two variables, then the correlation coefficient is tested by a t-test which its null hypothesis states that correlation does not exist if the test p-value is greater than 0.05.

Variable	Interactivity	Vividness	Novelty	Perceived ease of use	Perceived Usefulness	Enjoyment	Customer Brand Engagement
Interactivity	1						
<i>P-value</i>	-						
Vividness	0.677**	1					
<i>P-value</i>	0.000	-					
Novelty	0.722**	0.825**	1				
<i>P-value</i>	0.000	0.000	-				
Perceived ease of use	0.768**	0.726**	0.756**	1			
<i>P-value</i>	0.000	0.000	0.000	-			
Perceived Usefulness	0.706**	0.712**	0.780**	0.763**	1		
<i>P-value</i>	0.000	0.000	0.000	0.000	-		
Enjoyment	0.806**	0.755**	0.765**	0.781**	0.738**	1	
<i>P-value</i>	0.000	0.000	0.000	0.000	0.000	-	
Customer Brand Engagement	0.745**	0.726**	0.842**	0.793**	0.795**	0.763**	1
<i>P-value</i>	0.000	0.000	0.000	0.000	0.000	0.000	-

Table (8) : Spearman correlation coefficient matrix

Table (8) shows that:

There is a significant, positive, and strong relation between interactivity and customer brand engagement of correlation value 0.745 and *P-value* 0.000.

There is a significant, positive, and strong relation between vividness and customer brand engagement of correlation value 0.726 and *P-value* 0.000.

There is a significant, positive, and strong relation between novelty and customer brand engagement of correlation value 0.842 and *P-value* 0.000.

There is a significant, positive, and strong relation between perceived ease of use and customer brand engagement of correlation value 0.793 and *P-value* 0.000.

There is a significant, positive, and strong relation between perceived usefulness and customer brand engagement of correlation value 0.795 and *P-value* 0.000.

There is a significant, positive, and strong relation between enjoyment and customer brand engagement of correlation value 0.763 and *P-value* 0.000.

4.7 Structural Equation Modelling (SEM) Analysis:

4.7.1 The direct path analysis:

The researcher used the SEM path analysis in order to determine AR attributes (Interactivity, Vividness and Novelty) are either positively affected customer brand engagement, The following Table (9) shows the model paths, the Unstandardized Coefficients, the Standardized Coefficients, the Standard Error (S.E.), their p-value, and the adjusted coefficient of determination R^2 from the simple linear regression model between each component of the AR attributes and customer brand engagement.

Path		Estimate	S.E.	t-test	P-value	R^2
Interactivity	→ Customer Brand Engagement	0.533	0.022	6.124	<0.001	82.8%
Vividness	→ Customer Brand Engagement	0.440	0.014	2.909	0.004	79.5%
Novelty	→ Customer Brand Engagement	0.171	0.015	4.776	<0.001	78%

Table (9) Direct Path analysis model between AR attributes and CBE

The results shown in table (9) indicate significant relationships and H1 has been supported. Interactivity has a direct and significant effect on customer brand engagement with an estimate coefficient of 0.533 and p -value <0.001 and an adjusted coefficient of determination of 82.8% which means that the 82.8% from the total variation in customer brand engagement is due to the variation of the independent variable interactivity by one unit.

Vividness has a direct and significant effect on customer brand engagement with an estimate coefficient of 0.440 and p -value 0.004 and an adjusted coefficient of determination of 79.5% which means that the 79.5% from the total variation in customer brand engagement is due to the variation of the independent variable vividness by one unit.

Novelty has a direct and significant effect on customer brand engagement with an estimate coefficient of 0.171 and p -value <0.001 and an adjusted coefficient of determination of 78% which means that the 78% from the total variation in customer brand engagement is due to the variation of the independent variable Novelty by one unit.

The results indicates that augmented reality attributes significantly affect customer brand engagement supporting H1a, H1b, and H1c. The interactivity of the AR app is identified as the most important variable impacting brand engagement which account for 82.8%.

4.7.2. The indirect path analysis

The researcher created a SEM path analysis in order to determine the mediating role of technology attributes (perceived ease of use, perceived usefulness, and enjoyment) of the effect of AR attributes (Interactivity, Vividness and Novelty) on customer brand engagement. The following figure (2) shows the

indirect path analysis model between the three AR attributes and customer brand engagement in the presence of technology attributes as mediators.

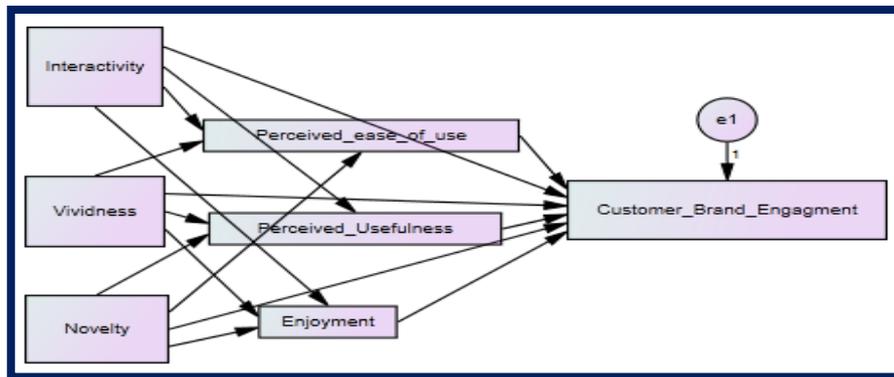
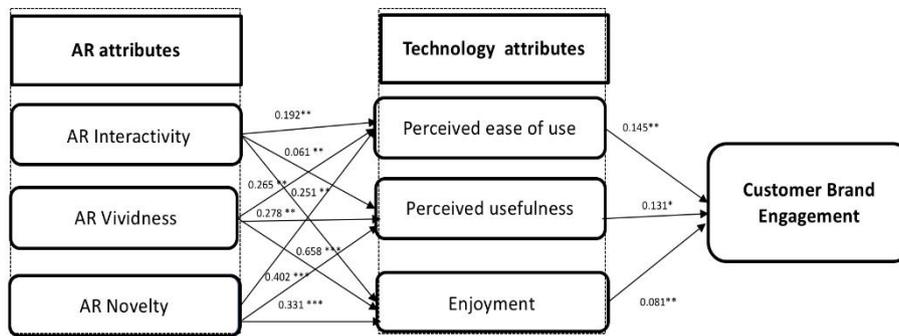


Fig. 2. Path analysis for the indirect SEM



Note: * p< 0.01, **p < 0.05, ***p < 0.001

Fig. 3. Results of the proposed model

The following Table (10) shows the model paths, the Unstandardized Coefficients, the Standardized Coefficients, the Standard Error (S.E.), the t-test (C.R.), and their p-value.

Path	Estimate	S.E.	t-test	P-value
Interactivity → Customer Brand Engagement	0.533	0.022	8.852	<0.001
Interactivity → Perceived ease of use	0.192	0.147	4.900	0.030
Interactivity → Perceived usefulness	0.061	0.138	2.936	0.047
Interactivity → Enjoyment	0.251	0.137	3.262	0.042
Vividness → Customer Brand Engagement	0.440	0.014	3.500	0.004
Vividness → Perceived ease of use	0.265	0.176	5.677	0.031
Vividness → Perceived usefulness	0.658	.1880	15.113	<0.001
Vividness → Enjoyment	0.278	0.186	5.314	0.035
Novelty → Customer Brand Engagement	0.171	0.015	9.522	<0.001
Novelty → Perceived ease of use	0.402	0.126	126.000	0.001
Novelty → Perceived usefulness	0.331	0.147	5.880	0.025
Novelty → Enjoyment	0.202	0.146	3.106	0.047
Perceived ease of use → Customer Brand Engagement	0.145	0.232	7.250	0.032
Perceived usefulness → Customer Brand Engagement	0.131	0.317	3.963	0.080
Enjoyment → Customer Brand Engagement	0.081	0.340	28.333	0.012

Table (10) Indirect Path analysis model between AR attributes and CBE

The full model was examined by SPSS .22 and AMOS. 26 Software to evaluate the structured model to the data and test the proposed hypotheses. The results indicate the statistical significance of all the hypotheses. It was found that all hypotheses are supported, and the technology attributes mediated the

effect of Augmented reality on customer brand engagement and all results are summarized in table (10) and (11). Table (10) shows that:

Interactivity has a positive and significant effect on customer brand engagement with an estimate coefficient of 0.533 and p -value <0.01 .

Interactivity has a positive and significant effect on Perceived ease of use with an estimate coefficient of 0.192 and p -value 0.030.

Interactivity has a positive and significant effect on Perceived usefulness with an estimate coefficient of 0.061 and p -value 0.047.

Interactivity has a positive and significant effect on Enjoyment with an estimate coefficient of 0.251 and p -value 0.042.

Vividness has a positive and significant effect on customer brand engagement with an estimate coefficient of 0.440 and p -value 0.004.

Vividness has a positive and significant effect on Perceived ease of use with an estimate coefficient of 0.265 and p -value 0.031.

Vividness has a positive and significant effect on Perceived usefulness with an estimate coefficient of 0.658 and p -value <0.001 .

Vividness has a positive and significant effect on Enjoyment with an estimate coefficient of 0.278 and p -value 0.035.

Novelty has a positive and significant effect on customer brand engagement with an estimate coefficient of 0.071 and p -value <0.001 .

Novelty has a positive and significant effect on Perceived ease of use with an estimate coefficient of 0.402 and p -value 0.001.

Novelty has a positive and significant effect on Perceived usefulness with an estimate coefficient of 0.331 and p -value 0.025.

Novelty has a positive and significant effect on Enjoyment with an estimate coefficient of 0.202 and p -value 0.047.

Perceived ease of use has a positive and significant effect on customer brand engagement with an estimate coefficient of 0.145 and p -value 0.0032.

Perceived usefulness has a positive and significant effect on customer brand engagement with an estimate coefficient of 0.131 and p -value 0.080.

Enjoyment has a positive and significant effect on customer brand engagement with an estimate coefficient of 0.081 and p -value 0.012.

The following Table (11) shows the multiple linear regression models for determining the effect of each AR attribute component with each technology attribute component on customer brand engagement.

Model	Multiple OLS	Dependent variable	Customer brand engagement	R ²
Variables	Coefficient	p-value	Significance	
Constant	0.826667	<0.0001	Significant	
Interactivity	0.835197	<0.0001	Significant	83.9%
Perceived ease of use	0.514356	0.0043	Significant	
Constant	0.836841	<0.0001	Significant	
Interactivity	0.712993	<0.0001	Significant	85.5%
Perceived Usefulness	0.655810	<0.0001	Significant	
Constant	0.849678	<0.0001	Significant	
Interactivity	0.729995	<0.0001	Significant	86.5%
Enjoyment	0.667616	<0.0001	Significant	
Constant	0.0694578	0.4083	Insignificant	
Vividness	0.368174	<0.0001	Significant	95.3%
Perceived ease of use	0.617577	<0.0001	Significant	
Constant	0.827430	<0.0001	Significant	
Vividness	0.537234	0.0003	Significant	84.3%
Perceived Usefulness	0.820945	<0.0001	Significant	
Constant	0.833000	<0.0001	Significant	
Vividness	0.544770	0.0004	Significant	83.9%
Enjoyment	0.823026	<0.0001	Significant	
Constant	0.825886	<0.0001	Significant	
Novelty	0.526802	0.0032	Significant	82.2%
Perceived ease of use	0.835716	<0.0001	Significant	
Constant	0.832468	<0.0001	Significant	
Novelty	0.441856	0.0090	Significant	83.3%
Perceived Usefulness	0.924686	<0.0001	Significant	
Constant	0.845588	<0.0001	Significant	
Novelty	0.516108	0.0007	Significant	83.7%
Enjoyment	0.879882	<0.0001	Significant	

Table (11) Multiple Linear regression Model and Summary of results

Interactivity and perceived ease of use have a significant and positive effect on customer brand engagement as their coefficients of estimate have p-value less than 0.05 and the overall regression model has a coefficient of multiple determination of 83.9% which means that the customer brand engagement changes by 83.9% due to the change of the interactivity and perceived ease of use by one unit.

Interactivity and perceived usefulness have a significant and positive effect on customer brand engagement as their coefficients of estimate have p-value less than 0.05 and the overall regression model has a coefficient of multiple determination of 85.5% which means that the customer brand engagement changes by 85.5% due to the change of the interactivity and perceived usefulness by one unit.

Interactivity and enjoyment have a significant and positive effect on customer brand engagement as their coefficients of estimate have p-value less than 0.05 and the overall regression model has a coefficient of multiple determination of 86.5% which means that the customer brand engagement changes by 86.5% due to the change of the interactivity and enjoyment by one unit.

Vividness and perceived ease of use have a significant and positive effect on customer brand engagement as their coefficients of estimate have p-value less than 0.05 and the overall regression model has a coefficient of multiple determination of 95.3% which means that the customer brand engagement changes by 95.3% due to the change of the vividness and perceived ease of use by one unit.

vividness and perceived usefulness have a significant and positive effect on customer brand engagement as their coefficients of estimate have p-value less than 0.05 and the overall regression model has a coefficient of multiple determination of 84.3% which means that the customer brand engagement changes by 84.3% due to the change of the vividness and perceived usefulness by one unit.

Vividness and enjoyment have a significant and positive effect on customer brand engagement as their coefficients of estimate have p-value less than 0.05 and the overall regression model has a coefficient of multiple determination of 83.9% which means that the customer brand engagement changes by 83.9% due to the change of the vividness and enjoyment by one unit.

Novelty and perceived ease of use have a significant and positive effect on customer brand engagement as their coefficients of estimate have p-value less than 0.05 and the overall regression model has a coefficient of multiple determination of 82.2% which means that the customer brand engagement changes by 82.2% due to the change of the novelty and perceived ease of use by one unit.

Novelty and perceived usefulness have a significant and positive effect on customer brand engagement as their coefficients of estimate have p-value less than 0.05 and the overall regression model has a coefficient of multiple determination of 83.3% which means that the customer brand engagement changes by 83.3% due to the change of the interactivity and perceived usefulness by one unit.

Novelty and enjoyment have a significant and positive on customer brand engagement as their coefficients of estimate have p-value less than 0.05 and the overall regression model has a coefficient of multiple determination of 83.7% which means that the customer brand engagement changes by 83.7% due to the change of the interactivity and enjoyment by one unit.

Discussion

Over the course of the last few years, augmented reality has been gradually garnering more and more attention in the realm of marketing. The current research investigates the effect of augmented reality and technology attributes on customer brand engagement through the augmented reality mobile application in Egypt, where the exposure to AR still in its early phase. The theoretical foundation of this study is rooted in the technology acceptance model and building on the research of (Wilson & McLean, 2019), the researcher used the AR attributes namely interactivity, vividness and novelty and identifies the role of technology attributes in mediating the relationship between augmented reality and customer brand engagement.

First, regarding the direct effect of AR attributes on customer engagement, the results revealed that augmented reality attributes significantly affect customer brand engagement supporting H1a, H1b, and H1c. The interactivity of the app is identified as the most significant variable impacting brand engagement.

Second, the results illustrated that AR attributes indirectly affect customer brand engagement via the mediation of technology attributes. The interactivity, vividness and novelty of the content displayed within the make-up wizards 's mobile app influences the perceived ease of use of the AR technology and indirectly affect the customer brand engagement. The findings are in line with previous studies (Wilson & McLean ,2019; Arghasi & Yusksel ,2022) The interactivity allow users to more easily interact, manipulate, and

become involved with content. Customers may benefit from augmented reality by utilizing the most cutting-edge, user-friendly technology currently available, and have full control over how they combine both the physical and digital worlds are involved.

Moreover, the AR vividness mixes the sensory experience of real objects with that of imagined objects to produce a distinct mental image in the consumer's mind. Prior to purchase, buyers have endeavoured to imagine the use of a product in order to comprehend its utility. Rather, AR eliminates the necessity for consumers to build their own mental images. As consumers are shown with a detailed and clear representation of the product with minimal effort or difficulty, they may see the technology as easy to use.

Furthermore, the results also confirm the effect of novelty on the perceived ease of use as the newness of the content offered to consumers via augmented reality technology, allowing them to try on makeup in a personalized manner and visualize products on their own face that is specific to themselves. Not only make-up but also such products as sunglasses, clothing, and furniture.

Additionally, the uniqueness of the content presented to consumers via AR technology influences their perception of the technology's usefulness. AR provides individuals with content that is situation-specific, personalized, and unique.

Further, the perceived Usefulness mediated the effect of AR attributes in customer brand engagement. It can be explained by the fact that the vividness and interactivity along with the novelty of the AR content enriching the perceived usefulness of the technology. As the AR provide such vivid data in the form of pictures, audio visual and colorful representation of future reality, making it easier for consumers to make their own decisions. As Customers' perceptions of the usefulness of augmented reality are influenced by its clarity and realism, as well as their ability to interact with it by repositioning objects on the screen as they are superimposed in the actual environment.

The results also affirm that interactivity, vividness, and novelty affect the consumers' enjoyment with technology. The finding supported previous studies by (Yim et.al ,2017; Mclean and Wislon ,2019; Olsen ,2013) who found that Mobile augmented reality is expecting to provide a playful and entertaining experience for customers. Additionally, the mental imagery that consumer often use affect its level of enjoyment during a shopping experience as well as the novelty of the content that are personalized to specific situation provide them with a unique tailored experience which in turn affect customer brand engagement.

A number of theoretical contributions have been captured in the current study. Initial prior literature described the notion of customer brand engagement as an underexplored one, (France, et al., 2016; Graffigna & Gambetti, , 2015; Islam & Rahman, 2016) hence in response to the call of previous research to conduct more empirical research in different cultures and contexts. The current study was conducted within the Egyptian context and aimed to investigate the effects of augmented reality on customer brand engagement using the technology attributes as mediators.

Up to the best knowledge of the researcher, there is no study that investigated the effect of AR attributes on customer brand engagement in Egypt and this was considered the main contribution of this research.

Managerial implications

In the past, almost everything was deemed impossible, but technological advancements have made nearly everything possible. Technology has gained immense significance and occupies a significant place in the lives of individuals. Particularly for literate customers, augmented reality plays a significant role in their purchasing intent.

Consumers are increasingly using AR-enabled apps on their smartphones, owing in part to rapid advances in smartphone hardware performance and in part to the fact that AR hardware is currently prohibitively expensive for consumers, in comparison to smartphones, which have the highest penetration rates and the lowest barriers to entry (Chen , et al., 2022).

The findings of the study provide practical implications for marketers. First, Marketing managers and retailers should consider adding AR features on Mobile applications as it adds new dimensions to the shopping experience by adding more personalized experience.

Second, AR app can be a powerful marketing tool to enhance customer brand engagement which in turn increase customer purchase intention and brand usage as well as word of mouth. As the customer will not only make the purchase but will recommend friends and peers for the consumption of that specific

product. Third, marketing managers and app. developers should recognize the power of technology attributes and its mediating role between AR and CBE that can collaborate and develop effective marketing strategies that enhance customer brand engagement. Fourth, marketing managers should consider the AR attributes and ensure that the app. developers should utilize the three AR attributes, namely the interactivity in designing their app enabling the customers to manipulate and control the products. The vividness of the products by providing detailed depiction of the products in the real world combined with the virtual world in a vibrant and clear way. In addition to the novelty of the content on the AR app that provide a personalized, unique, and specific experience to meet customer needs and preferences.

Limitations and future research

The study has some limitations, which may provide starting point for further research. First The research data was collected from female who participated in the experiment as it involved a make-up app. Therefore, future studies should consider other types of products such as apparel, furniture, sunglasses that involve both gender and may demonstrate different effects on CBE. Second, the study was conducted in Egypt as developing country in the field of augmented reality. Where some participants were first users for AR app. Which may limit the generalization of results; thereby, future studies should consider conduct the proposed model in different contexts. Due to the limited number of AR apps in retail marketing in Egypt the study has chosen a specific single brand to examine the research model. Since the augmented reality in marketing are relatively new; future research can examine the effect of AR app on customer retention; how the AR can be used more effectively at different stages of the customer journey to increase brand engagement. Additionally, how influencers can affect customer brand engagement in AR mobile app.

Conclusion

Technological advancements and the growth in augmented reality provide marketers with promising opportunities to engage customers. This research study aimed at investigating the effect of augmented reality on customer brand engagement; the technology attributes based on the technology acceptance model (TAM); Perceived usefulness, perceived ease of use, and enjoyment were used as a mediator. An experiment was conducted on females in Egypt on a cosmetic AR mobile app. Structural equation modeling (SEM) was employed to identify the relationships of AR attributes, technology attributes, and customer brand engagement. The results indicate that augmented reality attributes positively affect customer brand engagement. Additionally, Perceived usefulness, perceived ease of use, and enjoyment mediated the indirect and positive effects on CBE. Findings reveal that AR interactivity has a more influential impact. Accordingly, these findings are significant for marketers and mobile app developers to adopt AR technology and to design marketing strategies considering the AR attributes to enhance customer brand engagement

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Consumer consciousness of organic products and demographics characteristics: Are they related?

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Consumer consciousness, organic products, demographic characteristics

Abstract

Purpose of the research: Determining the relationship between consumer's consciousness of organic products (*environmental and health concern, organic knowledge, and consumer's attitude*) based on their demographics (*age, gender, education, and income*). Design/methodology: *The Statistical Package for Social Science (SPSS) version 18 was used to analyze the data. The following statistical procedures were used: Cronbach's Alpha and correlation coefficients to assure the reliability and validity of the scales. Descriptive analyses, Multiple linear regression analysis, T-test, one way analysis of variance (ANOVA) and finally, Post-Hoc test to conduct comparisons to test the significance between Age, Education, and Income, and independent variables. Results/Findings: the main objective and hypothesis were accepted except environmental and health concern and organic food knowledge based on gender, organic food knowledge among on age, organic food knowledge, consumer's attitude based on education, environmental and health concern, and consumer's attitude based on income. Conclusions: this thesis had contributed to the previous research in the field of organic products, initially, the current study sought to study the relationship between consumer's consciousness toward organic products and demographics, accordingly, questions were derived and hypothesis were also drawn from overall objectives by answering the research question and confirming the hypothesis, the results of this study could be served as foundation for further research about organic products in Egypt.*

1) the introduction

Consumers' purchasing behavior is becoming more socially conscious; thus, conscious consumers must have knowledge and attitudes toward the various companies' actions, as well as the belief that their purchases and needs will make a difference (Brochado, Teigo, and Oliveira, 2016).

Environmental consciousness consumers are people who make purchasing decisions that are greener than that of their peers (Peattie, 2001). Socially conscious consumers share attitudes toward social affairs and community involvement, which they believe, would have a positive, or at least, less negative impact on the environment. White, Habib and Hardisty, (2019) identified five types of behaviors that an environmentally conscious consumer might choose. These behaviors are reducing the consumption of traditional goods; purchasing friendly environmental products instead of traditional ones; consuming environmentally efficient goods; participating in recycling, collecting, or separating waste; and organizing or participating in environmentally conscious complaints or protests. The recent study will follow (Jiménez Sánchez and Lafuente, 2010) which indicates different dimensions and measurement of environmental consciousness using four dimensions, i.e., affective dimensions (general beliefs and values); dispositional dimension (personal attitudes); active dimension (pro-environmental behavior); and finally, cognitive dimension (information/knowledge). Therefore, the main aim of this research is to determine the relationship between consumer's consciousness (environmental and health concerns, organic knowledge, and consumer's attitude) and their demographics (age, gender, education, and income). Therefore, this study will provide answers to the following core research question; is there a significant difference among consumers' consciousness (environmental and health concerns, organic knowledge, and consumer's attitude) based on their demographics (age, gender, education, and income). From a theoretical perspective, this study fills a gap in the literature by studying the relationship between consumer consciousness and demographics. Accordingly, the research problem could be articulated as the lack of consumer consciousness toward organic products and how different demographics affect their consciousness accordingly, this research provides theoretical and practical implications.

2) literature review

2.1 consumer's consciousness

According to Villa Castaño et al., (2016), "consumer consciousness is defined as a consumer who considers the public consequences of his/her private consumption and attempts to use the purchasing power to bring about social change". Laroche, Bergeron and Barbaro-Forleo, (2001) suggest that environmentally conscious consumers are either natural people or legal entities who consider ecological impacts in their purchase decisions. "Consciousness" refers to the experience itself (Velmans, 2009).

2.2 Dimensions of Consumer Consciousness

A study (Ilkidou, Aoamson, & Sarmanidt, 2002) outlined a theoretical framework for Ecological Consciousness (EC) and Ecologically Conscious Consumer Behavior (ECCB) measuring consciousness with three dimensions: cognitive dimension, consumer's knowledge, and environmental concern; affective dimension, pro-environmental and recycling attitudes; and behavioral dimension: pro-environmental purchase behavior, pro-environmental post-purchase, and recycling behavior. In addition, (Sadia Suleman Khan Gulab Khan, and Aliya Ayub, 2021) did research on the variables that influence the ecological awareness of customers in Malaysia and Romania. According to the findings of the research, in Romania, ecological awareness, man-nature orientation, control domains, and customer readiness to pay a higher price have a substantial impact on consumer consciousness. In Malaysia, however, the structural equation model revealed that all variables, including ecological behavior, consumer ecological knowledge, man-nature orientation, spheres of control, consumer willingness to pay a higher price, consumer religious beliefs, and national culture, are associated with consumers' ecological consciousness. Hameed and Waris (2018) underline the favorable effect of eco-labelling on environmentally aware customer behavior. The findings investigated the entire mediation impact of green trust on the association between eco-labels and environmentally aware customer behavior. However, there was no mediation effect of environmental worry between eco labels and environmentally aware customer behavior, nor was there any influence of environmental concern on eco-conscious consumer behavior. Lin and Niu (2018) focus on Taiwanese consumers and conclude that environmental knowledge, awareness, and social norms have a beneficial influence on their environmental attitudes, as do environmental knowledge and social norms on their feelings of well-being.

In addition, Rusyani, Lavuri, and Gunardi (2021) analyze the variables that motivate Indian customers to choose eco-sustainable products, in addition to the interrelationships between environmental knowledge, environmental concern, green attitude, and perceived behavior control. According to the findings, environmental concerns and green attitudes are significantly associated and strongly influence eco-friendly buying behaviors. In addition, environmental knowledge and environmental concern are the main predictors of eco-friendly product purchasing behavior. In addition, Chari and Reddy (2019) investigate the impact of environmental consciousness and environmental knowledge on the purchase intent of young customers for green goods. The results indicate that consumers are aware of eco-friendly items and have a favorable attitude toward them. Musa et al., (2021) examine the relationships between the determinants of environmentally conscious consumer behavior (environmental knowledge, environmental concern, an individual's social responsibility, and environmentally conscious behavior) and their effects on environmental friendliness in Saudi Arabia. The results show that eco-aware consumer behaviour affects consumer environmental knowledge, environmental concern, individual social responsibility, and environmentally conscious consumers, all of which are mostly related to the demand for eco-friendly products. Nguyen et al. (2019) concluded that consumers' concerns about the environment, health, food safety, and their awareness of organic food had a significant influence on their attitude toward the purchase of organic beef. Consequently, the most recent study (Jiménez Sánchez and Lafuente, 2010) will be discussed, which identifies and measures environmental consciousness along four dimensions: affective dimensions (general beliefs/values); dispositional dimensions (personal attitudes); active dimensions (pro-environmental behavior); and cognitive dimensions (information/knowledge).

2.3 Relationship between consumer's consciousness and demographics

Numerous studies have demonstrated the effect of demographic characteristics on organic food consumption. The level of income, education, gender, marital status, age group, and social standing of consumers had a big impact on how they felt about buying organic food and their buying intention (Chen, 2012). Chaturvedi, Rashid, and Rahman, (2022), discovered that adults aged 36 to 45 with a good attitude toward organic food are more likely to consume it. Additionally, income and education are key demographic factors that positively influence the purchasing behavior of customers. In addition to occupation and married status, occupation and marital status have a significant influence on consumer knowledge, health consciousness, and attitudes toward organic food. Nonetheless, Ater & Serafimova (2019) conducted research in environmental studies that indicated the inequalities in gender roles related to women's stronger care for the environment and willingness-to-pay more for green items. Chen (2014) explored the significance of attitudes, demographics, and segmentation in urban China's prospective customers' inclinations to buy organic food. The data indicated that gender, age, and level of education had no significant effect on purchasing intentions. However, wealth, attitudes, and pre-buy intentions showed modest to moderate relationships with organic food purchase intentions. Gender impacted the association between attitudes and buying intentions. According to Tsakiridou et al. (2008), research is conducted to investigate the attitudes and behaviors of Greek customers towards organic goods. Higher education, wealth (at all levels), and age of customers (over 51) were shown to impact views toward organics, whereas gender did not seem to influence attitudes toward organic food. In this research, demographic parameters such as gender, age, income, and education will be addressed.

2.3.1 Gender and consumer's consciousness

Gender is one of the most fundamental demographic factors influencing the buying of organic products. Gender is a significant factor in consumers' perceptions of organic food products (Aertsens et al., 2009). Previous research found that married women were more enthusiastic and knowledgeable about organic products than married men (Guney and Giraldo, 2019). Nevertheless, Rodriguez Bermdezetal., (2020) reported that despite women's higher positive perceptions regarding the buying and consumption of organic food than men, they were less willing to pay for organic items. Accordingly, several research studies (Urea, Bernabéu, and Olmeda, 2007) supported the conclusion that women choose organic products of greater quality than men. In contrast to Canadian research that found bachelor's degree-holding bachelor's household men and those over the age of 51 were more inclined to pay a premium price, we found the opposite to be true (Haghiri and McNamara, 2007). Dagher, Itani, and Kassar (2015) found that both men and women who care more about the environment might help organic marketers.

2.3.2 Age and consumer's consciousness (environmental and health concern, organic food knowledge and consumer's attitude)

Age is another demographic characteristic that influences the buying of organic products. Previous research revealed a correlation between age and the consumption of organic food items. Gundala and Singh (2002) found that elderly respondents were less inclined to purchase organic foods than younger ones. However, (Olovi and Miti, 2021) found that in the United Kingdom, organic customers tend to be older than the national norm. In addition, Aertsens et al. (2009) indicated that the most frequent customers of organic vegetables in the United Kingdom are between the ages of 45 and 54.

In a Swedish study, Magnusson et al. (2003) determined that there were no significant variations across age groups regarding the willingness to purchase organic food. Chen (2012) discovered that organic food consumers in Thailand tend to be older (above 51) and have more favourable attitudes towards organic food than younger age groups. Moreover, Chen, Lobo, and Rajendran (2014) reported that younger customers, those under 45 years of age, had a greater tendency and attitude to buy organic goods than older consumers, those over 45 years old.

2.3.3 Education and consumer's consciousness (environmental and health concern, organic food knowledge and consumer's attitude)

Another demographic factor that influences consumer consciousness and considered a potential influence on the choice of organic food to buy is education. Education has been reported as a significant

factor affecting consumers' attitudes towards organic food products (Baydas, Yalman, and Bayat, 2021). However, people with higher education were more likely to express positive attitudes towards organic products and require more information on the production process of organics (Tsakiridou et al., 2008). Other researchers found a positive relation between education and organic food consumption (Cunningham, 2002). Besides, upper-class, and well-educated consumers have high demands for nutrition and freshness in organic products (Ariyawardana, 2009). Rahman and Hague (2011) found that consumers who have a higher level of education about organic products are willing to pay a higher price. Research in Pakistan suggests that people with higher education have a positive attitude towards organic products and are more likely to buy them more often.

2.3.4 Income and consumer's consciousness

Another demographic variable that influences the purchase of organic food is income. Higher-income families are more likely to have favourable views about buying more organic products than lower-income households (Gundala and Singh, 2021). Likewise, Gumber and Rana, (2019) reported that customers with incomes below \$50,000 were more inclined to buy organic food. The demand for organic food seems to be proportional to income (Ünal, Deveci, and Yldz, 2019). Furthermore, a high level of wealth and education are associated with food safety and environmental issues (Mohamed, G, and Shelaby 2012). Consequently, the percentage of customers who buy organic items improves as their income increases. According to Govinda samy et al. (2018), individuals with higher incomes are more willing to pay a premium for a certified organic product. According to Krystallis et al. (2005), most of the organic food customers in Greece are high-income earners with professional backgrounds. These results contradict the conclusion of previous Greek research (Fotopoulos and Krystallis, 2002) that a high household income is not necessary for the purchase of organic food. In Australia, however, (Lockie et al., 2002) discovered that low-income customers are not always less interested in organic food.

To conclude on the relationship between the dimensions of consumer's consciousness, i.e., environmental and health concern, consumer's attitude, and organic knowledge, on the one hand, and the main demographics, i.e., age, gender, education, and income, on the other, this study hypothesized that:

H1: There is a significant difference among consumer's consciousness (environmental and health concern, organic knowledge, and consumer's attitude) based on their demographics (age, gender, and income)

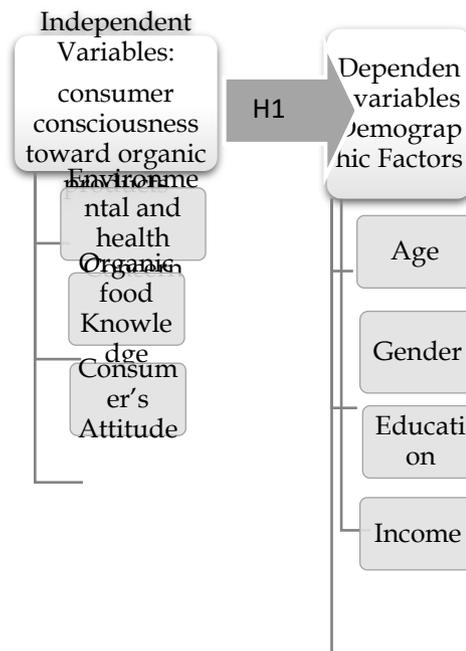


Figure (7) proposed framework of the study

3) Research methodology

3.1 Sample and data Collection

The current study is a conclusive study that seeks to use descriptive measures to determine the relationship between the consumer's consciousness and their demographics. Therefore, the target population in this research was comprised of all consumers of both genders whose age is above 20 and who exist in the four social clubs (Heliopolis club, Gezira club, Wadi Degla club, and Egyptian Shooting Club) located in Heliopolis, Zamalek, New Cairo, and Dokki respectively. Sample size and scope; The study focused on the Greater Cairo region (Cairo and Giza). A total of 400 questionnaires were distributed. The researcher distributed 400 questionnaires; six incomplete questionnaires were eliminated. Therefore, only 394 questionnaires were completed, and, thus, valid. All the respondents were members of the social clubs. The four social clubs cater to the middle and upper-middle classes of Cairo. Those social clubs were chosen as (a) they were the most elite social clubs in Greater Cairo; (b) organic shops existed in these clubs, therefore most members might be aware of organic products, (c) most members are concerned about the environment and health; and finally (d) all categories of demographics existed in those social clubs. The method used for the data collection depends on the probability sampling technique. This technique is adapted since each element of the population has a fixed probabilistic chance of being selected (Yang et al., 2014). Therefore, this research employs simple random sampling technique simple random sampling is the best way of getting some basic information quickly and efficiently and that each element in the sample has a known and equal probability of being chosen (Malhotra, 2007).

3.2 Measures

Drawing upon the previous literature, validated scales were used to measure the proposed research concepts as follows. All the questions are close-ended questions which allows the respondents to choose the existed alternatives. A total number of 43 questions were formulated based on theoretical concepts. The questions aimed at measuring the theoretical concept and designed as 5-point Likert scale were 1 stand for strongly disagree and 5 stands for strongly agree. The questionnaire is divided into three sections with scaled questions; The first section is related to overall information on organic products. Second section related to the concept of different variables including organic food knowledge, health and environmental concerns and consumer's attitude. Finally, the third section was designed on the light of demographic factors which include age, gender, , and education.

Organic food knowledge was measured using eleven items adopted from (Kwan Yi, 2009), Consumers attitudes scale was adopted from (Al-Swidi et al., 2014). it is consisted of eight items and finally Health and environmental concern was adopted from (Shamsollah, Nahid and Wei Chong, 2013) and (P. Voona, Sing Ngui and Agrawal, 2011) include 20 items.

4) Findings/results

The researcher used the following analysis techniques as they best fit the nature of the study in terms of objectives, research questions, and Hypothesis. The Statistical Package for Social Science (SPSS) version 18 was used to analyze the data. The following statistical procedures were used: Cronbach's Alpha and correlation coefficients to assure the reliability and validity of the scales. Descriptive analyses were used to analyze the demographics variables (Gender, Age, Education, and Income). Multiple linear regression analysis used to test the effect of the three independent variables and dependent variable. T-test to measure the relationship between independent variable and gender factor. One way analysis of variance (ANOVA) was used to measure the significant of the difference between independent variables and income, age, and education. Post-Hoc test to conduct comparisons testing the significance between Age, Education, and Income, and independent variables.

4.1 Gender

T-Test will be used to test if there is a significant difference among consumer's consciousness (environmental and health concern, organic, and consumer's attitude) based on gender (table1).

Variables	Gender	Mean	Std. Deviation	Std. Error Mean
Environmental Health concern	Male	3.9509	0.38685	0.02836
	Female	3.9132	0.39222	0.02845
Organic knowledge	Male	3.2197	0.35958	0.02588
	Female	3.2387	0.40493	0.02930
Consumer's attitude	Male	3.4494	0.67228	0.04852
	Female	3.5920	0.65068	0.04672

Table (7) Results of the T-test analysis

Variables	T-test for Equality of Means							
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
						Lower	Upper	
Environmental Health concern	0.940	374	0.348	0.3778	0.04018	-0.04123	0.11680	
Organic food knowledge	-0.488	382	0.626	-0.01905	0.03907	-0.09587	0.05777	
Consumer's Attitude	-2.118	384	0.035	-0.14264	0.06734	-0.27505	-0.01024	

Table (8) Results of T-Test for equality of means

From table (1&2), can be concluded that:

There is no significant difference among environmental and health concerns based on gender with 95% confidence, as the sig. = 0.348 is greater than 0.05. Also, it is shown from the sig. column that there is no significant difference among organic food knowledge based on gender, as the sig. is 0.626 is greater than 0.05. And finally, consumers' attitudes have a significant difference based on gender as the sig. is 0.035 less than 0.05. According to demographic analysis and hypothesis results, gender was determined to be slightly equal, therefore male and females were determined to have a positive attitude toward organic products. Therefore, according to the previous analysis which was composed of slightly equal Gender; as females represented 50.1% and males represent 49.9%, both females and males will perceive a positive attitude toward organic products without being knowledgeable or concerned about their health.

4.2 Age, Income, and Education

To measure the relationship between consumer's consciousness (concern, knowledge, and attitude) based on their demographics (Age, Education and Income), Anova Test. The one - way analysis of variance (ANOVA) is used to determine whether there are any statistically significant differences of the mean of specific continuous variable between two or more independent groups, therefore, Anova test will be used to measure the next three factors (Age, Income and

4.2.1 age

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Environmental And health concern	Between Groups	1.437	3	0.479	3.220	0.023
	Within Groups	55.494	373	0.149		
	Total	56.931	376			

Organic food knowledge	Between Groups	0.820	3	0.273	1.887	0.131
	Within Groups	55.198	381	0.145		
	Total	56.018	384			
Consumer's Attitude	Between Groups	4.303	3	1.434	3.303	0.020
	Within Groups	166.282	383	0.434		
	Total	170.585	386			

Table (3) Results of Anova Test of Age

From table (3), can be concluded that:

As shown from the sig. Column it can conclude that there is a significant difference among environmental and health concerns based on age, as the sig. = 0.023 is less than 0.05. Moreover, there is a significant difference among consumers' attitudes based on age, as the sig. = 0.020 is less than 0.05. In contrast to the organic food knowledge which reflected there is no significant difference among them based on age as the sig. = 0.131 is greater than 0.05 with 95% confidence. Therefore, according to the previous analysis of age, which determined that around 137 (33.8%) respondents from age 31-40 and around 53 (13.5%) from age 41-50 were respondents. Therefore, this proves that this percentage of respondents from 41-50 might increase, when their concern for their health and the environment increases and when they change their perspective and attitude toward organic products.

4.2.2 Income

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Environment Health concern	Between Groups	0.918	4	0.230	1.543	0.189
	Within Groups	54.598	367	0.149		
	Total	55.516	371			
Organic food knowledge	Between Groups	1.889	4	0.472	3.327	0.011
	Within Groups	53.223	375	0.142		
	Total	55.112	379			
Consumer's Attitude	Between Groups	3.764	4	0.941	2.134	0.076
	Within Groups	166.238	377	0.441		
	Total	170.002	381			

Table (4) Anova test of Income

From the table (4), can be conclude that:

It is clear from the sig. column that there is no significant difference among environmental and health concern based on income, as the sig. = 0.189 is greater than 0.05. There is a significant difference among organic food knowledge based on income, as the sig. = 0.011 is less than 0.05. In contrast, consumer's attitude as there is no significant difference among based on income, as the sig. = 0.076 is greater than 0.05. Therefore, according to the previous analysis of income, only 20 (5.1%) of the respondents their income between 2001-3000; and around 33.2% of the respondents their income more than 5000. Therefore, to increase consumers' willingness to buy and pay for buying organic products, consumers must gain more knowledge on organic products and must concern more about their health and environment.

4.2.3 Education

Testing if there is a significant difference among consumer's consciousness (environmental and health concern, organic knowledge, and consumer's attitude) based on education.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Environmental and health concern	Between Groups	1.634	4	0.409	2.785	0.027
	Within Groups	54.426	371	0.147		
	Total	56.060	375			
Organic knowledge	Between Groups	1.352	4	0.338	2.352	0.054
	Within Groups	54.481	379	0.144		
	Total	55.834	383			
Consumer's attitude	Between Groups	1.686	4	0.422	0.951	0.434
	Within Groups	168.889	381	0.443		
	Total	170.576	385			

Table (5) Results of ANOVA test of education

From table (5), can be concluded that:

It is shown from the sig. column with 95% confidence that there is a significant difference among environmental and health concerns based on education, as the sig. = 0.027 is less than the p-value (0.05). It is shown from the sig. column that there is no significant difference among organic food knowledge based on education, as the sig. = 0.054 is greater than 0.05. It is shown from the sig. column that there is no significant difference among consumer's attitude based on education, as the sig. = 0.434 is greater than 0.05. Moreover, according to the previous analysis the researcher observed that only 3.8% of the respondents were undergraduate, and around 52.2% of the respondents were employed. Therefore, to make undergraduate students become consciousness of organic products, must attract their attention and concern towards their health and the environment.

5) Discussions and conclusions

This research aims at studying the relationship between consumer's consciousness (environmental and health concern, organic knowledge, and consumer's attitude) and their demographics (age, gender, education and income).

Therefore, the hypothesis was accepted except for environmental and health concerns and organic food knowledge based on gender, organic food knowledge based on age, organic food knowledge, consumer's attitude based on education, environmental and health concerns, and consumer's attitude based on income. Therefore, these results were in line with some of the previous studies which revealed that organic food attitudes were influenced by gender, age, level of income, level of education and the presence of children in the household (Wier and Calverley, 2002). Furthermore, it had been suggested that women and young consumers had a positive attitude toward purchasing organic products (van Doorn and Verhoef, 2011).

Furthermore, Elmenawy, (1998) revealed that there was a relationship between consumer consciousness and demographical factors reflected in gender, age, education, and occupation. Tsakiridou, et al., (2008) showed that demographics seem to affect attitudes towards organics. Additionally, women were more concerned about health, nourishment, and the environment and more likely to demand healthier information (Lockie, et al. 2004). Therefore, and that, Radman (2005) found that a higher proportion of women than men hold positive attitudes towards organic food. Another study done by (Olmeda et al., 2008) who acknowledged that although women had more favorable attitudes towards the purchase and consumption of organic food than men, they were less willing to pay a premium for it.

6) limitations and directions for future research

6.1 limitations

The limitations of any study are those characteristics that define the boundaries of the inquiry as determined by the practical exclusionary and inclusionary decisions that are made throughout the development of the study (Wanjohi, 2012). Accordingly, the various study limitations may be linked to the sample unit; this study is limited to greater Cairo only due to the cost factors, time available. Obstruction rules and regulations that prevent the researcher from distributing the questionnaire to other places other

than social clubs. The researcher faces a problem in getting enough previous academic studies determining the direct relationship between consumer consciousness and demographics regarding organic products. Finally, consistent with the problem statement and the gap stated. There are a few studies that have so far been conducted to link the relationship between consumer consciousness. The researcher linked this relationship through predictors of consumer consciousness and demographic characteristics.

6.2 Directions for future research

Further examination of the relationship between consumer consciousness toward organic products and their demographics will help in getting better empirical study and results. Moreover, other sampling methods could be reaching a large number of respondents. Also, future research could investigate different factors of consumer consciousness other than concern, knowledge, and attitude, which will provide deeper insight and results.

7) References

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The impact of corporate governance on controlling discretionary accrual: A study of impacts on earnings management based on FTSE350, UK

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Keywords

Corporate Governance, Earnings management

Abstract

While the interests of shareholders contradict with the interests of the managers, agency problem appears. However, the principle of the agency theory is to establish the relationship between the shareholders and managers; and this paper relies on the involvement of corporate governance who can resolve the issues between earnings management and the underlying causes of the earnings management based on the FTSE350, UK. This study has considered the performance matched discretionary accruals to measure the magnitude of the discretionary accruals by considering OLS regression model.

The findings of this paper reveal the mixed results as board independence, non-executive director's fees and block holder have significant impact whereas Board Meeting, the presence of female in the board and board size do not have significant impacts on controlling discretionary accruals.

In terms of the estimation of discretionary accruals, there are various models identified in the past. Hence, it is recommended that the models have to be tested and compared regularly to identify the most significant one; to conduct research for a particular market. On the other hand, identifying most effective models to calculate the value of discretionary accruals is quite crucial as most of the researchers are still using Modified Jones's Model (1995).

1. Introduction

Since the beginning of 21st century earnings management has been a huge issue within the corporations, their internal and external stakeholders. In the conference in September 1998, the chairman, Arthur Levitt, of the Security of Exchange Commission proclaimed that "the SEC in no uncertain terms to a serious, high-priority attack on earnings management" (Loomis, 1999, P. 76), hence, they formed a Blue-Ribbon Panel by the Public Oversight Board.

There used to be long arguments on earnings management concerns. It is so widespread that the managers and directors of the organisations used to adopt earnings management practice as a tool to meet the expectations of different parties involved in the organisation (Loomis, 1999).

Hence, the relevance of the controlling device of the earnings management has been the area of interest to ensure that the earnings quality has been properly maintained. This research endeavours to estimate the value of discretionary accruals by adopting performance matched discretionary accruals and identifies associations between various factors of corporate governance.

Research Aim: analysing the Impact of corporate governance on controlling earnings management practice in the UK.

Research Objectives:

- To Estimate the value of earnings management by using performance matched discretionary accruals model.
- To assess and analyse the Impacts of corporate governance variables on controlling earnings management.

1.1. Earnings Quality and Earnings Management

This research has prepared the concept to explore earnings management based on various models. Since Healy (1985) this topic has drawn the attention of the researchers, regulators, accountants, auditors, financial analyst, and other users of financial statements. This research has adopted the method of estimating earnings management driven through accruals accounting system; hence, identify the impacts of governance factors on manipulating earnings quality.

Subsequently, the development in the study of earnings management model has been abundantly moved forward. It was developed by Deangelo (1986) with a minor change from Healy (1986). He assumed that the nondiscretionary accruals are constant. This model has ignored the economic changes of the business. Further, Jones (1991) has developed the model where the consideration of changes in revenue and property, plant and equipment was made relevant, while computing non-discretionary accruals. This model was later further developed by Dechow, Sloan, and Sweeney (1995) which is also identified as modified Jones' model. This model has been developed by inserting changes in total receivables while computing non-discretionary accruals. changes in receivables have been reduced from changes in revenue, in the model.

Modified Jones' model (1995) was later concluded as less powerful model in case of extreme financial performance by Dechow et al (1986); the reason is that in these situations isolating discretionary accruals is an issue. The other important changes in advancing models of earnings management have been appeared when Kasznik (1999) developed Kasznik model. This model was formed by introducing another independent variable which is changes in net cash flow from operating activities.

After Kasznik (1999) Model, another effective earnings management model formed as Kothari-Jones Model (2005). This model was basically based on firm performance; hence, this is also called as Performance Matched Model. The contribution in developing models after performance matched discretionary accruals has not been very significant despite of changes in IFRS and Corporate Governance codes.

Therefore, the relevance of the research on earnings management is increasing. Identifying the better explanatory models of earnings management is equally important. The use of manipulating earnings figure has been very important since the rise of larger corporations. Accounting scandals at the start of first decade of this century has reached in culmination and many corporates has faced bad fortunes due to audit failures around the world for instance; Xerox, Enron, WorldCom, Health South in the USA, Parmalat, Vivendi in Europe, Satyam Computer Services, Sino-Forest in Asia (Abdullahi, 2015; Agrawal and Chatterjee, 2015).

Hence, Lev (1989) suggests that the earnings quality is major part to be considered in the research on continuous basis since there can be manipulations all the time. The managers and directors consider their discretionary rights and smooth earnings relying of the accounting principles. Hence, the practice of earnings management is undeniable as per the practice of these concepts in today's activities of the corporations (Barnea et al, 1976).

1.2. Corporate Governance and Earnings Management

Earnings management does reflect the true value of the financial performance of the organisation; hence, this sometime is not reliable resource to use as a tool for financial decision-making factor. This practice may misguide the stake holders while making financial decision. If the managers' opportunistic behaviour is avoided, the practice of earnings management may create reliable financial report, hence, may help in right decision making to the investors and shareholders (Wild, 1996; Dechow et al, 1995; Chang et al, 2010). The implications of earnings management can have impact on stock markets regulators, shareholders, creditors, suppliers, investors, and other concerned stakeholders. The rise in the concept of earnings management have been started since the larger organisation as mentioned earlier have been collapsed.

Hence, all the interested parties are more interested in controlling earnings management from when corporate governance started playing very important role. These are considered as monitoring system to earnings management. The main idea of developing the strategy of putting corporate governance in place is to resolve the issues and concerns of the agent. The agency problem is a tension between the shareholder's interest and manager's interest (Demsetz & Lehn, 1985; Colaco et al, 2011).

The remaining part of the paper gets followed by section 2 which deals with the literature review and theoretical framework. Further, section 3 deals with research design, section 4 embraces the empirical models and discussions. In the end section 5 includes the conclusions and future research context.

2. Literature Review and Hypothesis Development:

2.1. Introduction

The theoretical approaches in terms of corporate governance cannot be bound in certain fixed framework as there are various point of views in establishing, operating and developing the business activities. However, as per the concerned matters of this study, mainly, this study deals with four different types of theoretical framework names as agency theory, stakeholder theory, stewardship theory and institutional theory.

2.2. Agency Theory

This theory deals with the relationship between the owners and the managers. This theory alludes that all the interested parties are motivated by their own interest; hence, this may cause the contradiction between the parties' interest. For instance, employees are interested to bonuses and pay-rise while shareholders are interested in profit maximisation and wealth maximisation. Therefore, the organisation needs someone who basically represent the agent and play the intermediary role to solve the issues among different parties (Xu et al, 2010).

This concept is even more relevant in the modernised industry as the shareholders do not get directly involved in the management activities. In terms of accounting concept, while adopting agency theories, the interest of the owners and administrators are separately handled (Wulandari & Suganda, 2021). The shareholders hire managers to run the organisation by making best use of the available resources. As the interest of the managers conflict with the interest of the shareholders, the shareholders are more cautious with the behaviour of the management; therefore, the potential agreements are developed in the contractual form. Monitoring activities by the shareholders results very expensive economic practice which may, in practice, result the salary of managers get reduced (Wulandari & Suganda, 2021).

2.3. Stewardship Theory

Stewardship theory basically deals with psychological and sociological drive. This is quite opposite concept of agency theory; as per stewardship theory, the objectives of the organisation and the shareholders play key role while the corporate executives perform their role within the organisation. This concept basically rests on empowerment and facilitation rather than control and direct. This theory does not accept the concept of the agency theory because agency theory is more individualistic and relied on the fact that the corporate executives are more motivated with their self-interest (Kankanamage, 2015).

The perspectives of the stewardship are different from the perspectives of the agency theory. In stewardship theory, it is believed that the managers and directors of the organisation are reliable and trustworthy, hence, consideration of huge efforts and money in monitoring the performance of the managers is not necessary (Kankanamage, 2015). The belief is that the agents like managers and directors are not led by their opportunistic behaviour and self-interest purpose.

Moreover, this concept believes that the managers and directors focus on collective practice due to the fact that they are motivated by the objectives of the organisation. The managers are motivated by the interests of the owners rather than being individualistic; hence, they generate more profit and share more dividend to the owners of the business; and it is more obvious that the share price gets increased (Katmon & Farooque, 2017).

2.4. Stakeholder Theory

The concept of the stakeholder theory was developed around 1940s and re-emerged in 1980s which defines stakeholder as the party who can influence and gets influenced by the organisations' objectives. Hence, stakeholder incorporates many different parties who have interest on the organisation. There are some stakeholders like employees, investors, customers who are considered as directors. Government can be considered as indirect stakeholders who indirectly influence the organisation (Hasan & Ahmed, 2012).

This theory admits the multilateral agreement between the organisation and all stakeholders. The company and the internal stakeholders are associated by formal and informal regulations. As these stakeholders are directly related, the history they have created can basically form the norm. On the other hand, the external stakeholders like shareholders provide the financial support to the organisation. Similarly, customers, suppliers and community are other external stakeholders who also have interest in the organisation and are restricted by the formal and informal rules and regulations of the organisation (Hasim and Devi, 2008).

Moreover, the theory claims that the organisations and communities are dependent to each other, hence, the organisation requires to show their responsibilities to the society than only considering the interest of the shareholders. The researchers Greene (2014), Gaston (2017) has considered the presence of stakeholders in governance structure. The presence of managers, bankers, employees, customers and other members of the community should have space in the governance structure.

2.5. Institutional Theory

Institutional theory believes on the organisational rules and regulations; and these rules and regulation actually govern the organisation efficiently. The access to the resources, the activities in the organisation have to be legitimately managed. However, it cannot be guaranteed that conformation of the rules and regulation actually lead the company successfully (effendi et al, 2007).

In terms of corporate governance as suggested by institutional theory, they are established to ascertain the goals and objectives of the organisation are clearly defined. Corporate governance has to ensure that the business environment, social structure, historical context is in the line with the objectives of the organisation (effendi et al, 2007).

This theory suggests that corporate governance has to ensure that the change management has been appropriately considered and the changes are integrated within the organisational process. Institutional theory further claims that the changes can be adopted or rejected as per the suitable environment of the organisation. The social, environmental and historical context of the organisation have to be appropriately analysed before adopting or rejecting changes (Ebrahim, 2007).

2.6. Summary

In terms of the theory discussed, agency theory has drawn the attention of the most researchers. In terms of the earnings management too, it has been argued that the managers and directors of the organisation most likely practice the manipulation of the earnings quality because of the opportunistic behaviour.

On contrary, the other theories; stewardship theory, stakeholder theory and institutional theories condemn the ethics concerns and anti-social activities in the organisation for personal benefit. Hence, it can be agreed that the adoption of these theories can reduce the practice of earnings management. The roles of corporate governance and external audit can ethically and socially be guided; hence, they can have impacts on controlling earnings management.

2.7. Hypothesis Development:

2.7.1. Board Independence

Many literatures by fama (1980), Jensen (1983), Man (2013), Raeevan and Ajward, (2019) have demonstrated in their paper as the board of directors are strong organ of the corporations. Corporate governance structure can be viewed as internal and external governance structure in which board of directors are considered as an internal corporate governance structure. In addition to this, they made an argument on the status of board of the company whose main objective is to make effective monitoring to the management actions.

As this body of corporate governance is very important, they mainly play the role of being vigilant to obtain profit maximisation as well as wealth maximisation. The involvement of non-executive directors primarily is for the purpose of making independent decisions and supporting those ones. They actually play mediatory role in which they work for both shareholders and managers. Moreover, non-executive

directors do make overview of the decisions before they are implemented from which they can make a judgement of the impact on each stakeholder (Bao and Lewellyn, 2017).

H1: The independent boards and discretionary accruals are negatively associated.

2.7.2. Board Meetings

Aligning with the principle of the best practice of corporate governance, this enriches the overall performance of the organisation. However, the issue in the research is to test whether earnings quality gets affected from corporate governance. Hence, number of board meetings are considered as one of the independent variables in this research which can have impact on earnings quality (Vafeas, 1999; Carcello, et al. 2002; Subbhasinghe and Kehelwalatenna, 2021).

Other researchers Abdel (2012) and Salch et al (2020) have argued on board meeting as one of the most important aspects in integrating earnings quality as this frequently aware management about the ethical aspects of financial preparation. On the other hand, Zuo and Guan (2014), Lopes (2018) have advised that there is issue on finding right time for every member of the board. Hence, lack of time becomes an issue to get collective work from the involvement of all members of the board. However, they have brought same ideas as Abdel (2012) and Salch et al (2020), which signifies the better earnings quality when making board meeting frequently. Shareholder's interests also get addressed due to this practice.

H2: Board meetings and earnings management are negatively associated.

2.7.3. Board Size

The research on the topic of the impacts of corporate governance on earnings management is continually done since accounting manipulation reached in its pinnacle point. Board size has been chosen as one of the variables which has impact on earnings quality. This independent variable in relation to discretionary variables has been discussed from various dimension by (Jensen, 1993; Yermack, 1996; Dalton et al., 1998; Harmalin & Weisbach, 2003; Puat and Susela, 2013; Bassiouny et al, 2016).

Board size in this study represents the number of members in a board. Hence, agency theory emphasizes on larger size of the board. They believe that larger board size can be vigilant to address agency problems. The management may have been directed for their self-interest. As the members are more in larger boards, they have better efficiency to control agency problems. Moreover, the organisation is governed by the dominance of CEO (Seng and Findley, 2013).

But chief executive officer may have been driven by some contractual obligations or self – interest issues or by both. They may intimidate the other managers and internal auditors. Larger board can be a remedial source in this kind of situation. Thus, the profit maximisation or wealth maximisation or other objectives those can be market development, market growth as per the interest of shareholders. In such cases, larger board can be positive source to make decisions and act on them according to the interest of shareholders (Abbad et al, 2016).

H3: The size of board and discretionary accruals are negatively associated.

2.7.4. Non-executive directors' Fees

The former researchers (e.g., Bhagat and Black, 1999; Bhagat et al., 1999) have documented in their report about shared ownership. They argue that higher share ownership helps the organisation to be on the line of agency theory. The directors get monitored sufficiently in this model of the firm. Other statement on the behalf of this topic is found as "NEDs remuneration can be a useful and legitimate way of aligning the directors' interests with those of shareholders" (Hampel Report, 1997, p.10).

Other researcher Jensen (1989) has investigated the agency problem based on larger equity ownership and smaller equity ownership. The report has identified that the larger equity ownership is more favourable to reduce the agency cost and improve the cost effectiveness than the smaller equity ownership. In addition to this, Chtourou et al. (2001) also recognises the positive relationship between reducing discretionary accruals and non-executives' ownership.

In regard to this research, it is assumed that the non-executive directors are paid appropriate fees. This is also assumed that the time utilised, commitment and devotion of the non-executive directors are valued reasonably. This statement has been reinforced by Mallin (2007) in her research as the fees paid for the

directors determines the meeting involvement and its effectiveness of the board activity. The firm gets benefitted by getting appropriate advice, long term goals, shareholders' interest.

H4: The relationship between non-executive director's fees and earnings management is negatively associated.

2.7.5. Block holders' Leadership

As discussed by (Jensen and Meckling, 1976; Shleifer and Vishny, 1997), block holders have more influences in company decision making opportunity than small shareholder those are acting externally. These researchers actually started identifying if block holders affect in managing accounting manipulation. Jensen and Meckling (1976) were those ones who studied on block holders to examine whether they can have impact on agency cost and identified that block holders make very positive impact on reducing agency cost. The reason is that the block holders can effectively control the behaviour of the manager and can monitor in the discretionary rights of the managers (Shleifer and Vishny, 1997; Barclay and Holderness, 1991).

From the research on this part as well, as found in institutional ownership and managerial ownership, block holders made positive impact on the governance oversight. This concept basically was reviewed and supported to the view that this monitors the activities of executive directors. Apart from this, in the empirical test by Cronqvist et al. (2008); Persons, (2006), this has been approved as being supported to the idea that the block holders monitor the functions of executive directors. They control the discretionary rights of the managing directors. Hence, this has impact on earnings quality. There are various accounting practices those can support manipulation; however, aggressive accounting can be controlled and block holder's presence in firm monitor the internal control. So, this is argued as positive relationship in reducing earnings management practices in presence of block holders.

The data collection is being considered from the company's annual report to collect block holder's ownership. In this research, the data is considered from UK firms, hence this variable to identify is feasible because the listed companies have to disclose the report if an entity has more than 3% shares in accordance with sections 198 to 208 of the Company Act 2006. Therefore, the hypothesis is created as following:

H5: A block holding of 10% or more; and earnings management are negatively associated.

3. Data and Methods:

3.1. Data

The data collection was made based on the FTSE350 companies of the UK. The reporting period initially for 10 years was targeted, from 2010 - 2020. The data has been collected from FAME (Financial Analysis Made Easy). The data are not available for all the variables in; hence, this research incorporates the data of 6 years from 2014 - 2019. This study has considered the UK Corporate Governance Code based on which the data has been collected. As the UK Corporate Governance Code keeps on changing, its effect on the financial reporting may effective differently. Hence, to measure the current situation of the earnings management, and the impact on this by corporate governance is very essential. This helps to identify the situations of earnings management and the effectiveness of corporate governance in current business context.

The firms listed in FTSE350 index are highly monitored by corporate governance law, hence, the data in relation to this index is quite relevant to measure the effect of both of them on earnings management. The corporations used in this study are listed companies, hence, the data are publicly available.

On the other hand, there are various regulations and compliances the publicly listed companies have to abide; hence, this study has chosen these corporations to identify the impact of corporate governance on earnings management. The regulations set by corporate governance are strongly adopted in these organisations. Hence, these, public listed companies are chosen in this research as the factors of corporate governance can have impact on shaping earnings quality in such corporations.

Further, since the data of all the variables and all the years have not been available via FAME, this study has used other sources for data collection. This study has collected the data those are freely available from MSN, National statistics, Gurufocus, and Nasdaq as per the need to conduct this empirical research.

3.2. Variables and Measures

Moreover, there are 6 independent variables and 4 control variables based on corporate governance which has been used to form first regression model. The independent variables used in the study are Board Independence, Board Meetings, Board Size, Non-executive directors' Fees, Block holders' Leadership whereas the dependent variable is earnings management.

The summary of the variables is presented in the table below:

Table 1: Summary of the variables

Symbol	Variable	Operationalisation
Dependent Variable		
EM	Earnings management	Discretionary Accruals in its absolute value based on performance measured discretionary accruals Model.
Independent Variables		
BoardSize	Board Size	The total number of directors in the board committee.
BoardInd	Board Independence	The independence of the board measured dividing total board members by independent non-executive members.
BrdMeet	Board Meetings	The number of meetings held in an accounting period by the board members.
FemaleBoard	Gender diversity	The percentage of female presence in the board.
NEDFee	Non-executive directors' fees	The total amount in a year paid to each non-executive director.
Blockholder	Block holders' ownership	This is regarded as a dummy variable. The value one is considered when the external stockholder owned 10% and more; zero otherwise.
Control Variables		
Leverage	Leverage	This is ratio between the long-term debt and total asset.
CFO/TA	Cash Flow from Operating Activities	This is calculated dividing cash flow from operating activities by value of total asset of the beginning of the accounting year.
ROA	Return on Asset	The percentage of return on Asset.
Size	Size	This is log value of total assets at the end of the accounting period.

3.2.1. Earnings management Variables:

In this empirical research, two main factors have been included to examine the impact of corporate governance on earnings management. Firstly, earnings management has been estimated by using performance matched discretionary accruals which considers different variables as below:

$$TAC_{i,t} = \alpha \left(\frac{1}{TA_{i,(t-1)}} \right) + \beta_1 \left(\frac{\Delta Rev_{i,t} - \Delta Rec_{i,t}}{TA_{i,(t-1)}} \right) + \beta_2 \left(\frac{PPE_{i,t}}{TA_{i,(t-1)}} \right) + \beta_3 (ROA_{i,(t-1)}) + \epsilon_{i,t} \dots \dots \dots (i)$$

Healy (1985) and Jones (1991) have used balance sheet approach, as mentioned in equation (v), to calculate total accruals in which following formula has been used. This can be mentioned as below:

$$TA_t = (\Delta CA_t - \Delta Cash_t - \Delta CL_t + \Delta STDEBT_t - Dep_t) \dots \dots \dots (ii)$$

Were,

ΔCA_t = Change in current assets in year t.

$\Delta Cash_t$ = Change in cash in year t.

ΔCL_t = Change in current liability in year t.

$\Delta STDEBT_t$ = Change in current maturities of long-term debt and other short-term debt included in current liabilities between current year t and previous year t-1.

Dep_t = Depreciation and amortisation expense in year t.

Further, the first stage uses balance sheet approach to calculate total accruals as mentioned above while the second stage is used to compute non-discretionary accruals as below:

Estimates of the firm specific parameters $\beta_1, \beta_2, \beta_3$ are generated using the following model in the estimation period.

$$NDA_{i,t} = \alpha \left(\frac{1}{TA_{i,t-1}} \right) + \beta_1 \left(\frac{\Delta Rev_{i,t} - \Delta Rec_{i,t}}{TA_{i,t-1}} \right) + \beta_2 \left(\frac{PPE_{i,t}}{TA_{i,t-1}} \right) + \beta_3 (ROA_{i,t-1}) \dots\dots\dots (iii)$$

The heteroscedasticity in this model could be the problem because of the variables involved in the regression analysis due to which the original variables are deflated by total asset at (t-1) as many researchers (Chen & Zhang, 2012; Greene, 2014) admit that variables used in performance matched discretionary accruals models are deflated by average total assets to lessen heteroscedasticity.

$$\text{Thirdly, discretionary accruals are computed by } DA_{i,t} = TA_{i,t} - NDA_{i,t} \dots\dots\dots (iv)$$

While calculating the value of discretionary accruals, this research has not paid attention on the particular event and concentrate on the values of the earnings management. It does not consider the signs while making regression analysis. Hence, the absolute value of the discretionary accruals has been created for the analysis; the reason behind this is because the manipulation can be done in both positive and negative ways to meet the contractual obligations (Warfield et al, 1995; Klein; 2012).

3.2.2. Corporate Governance Variables:

This research has considered corporate governance as a monitoring device of earnings management. Hence, independent variables are the attributes of corporate governance like board size, board independence, board meetings, presence of female in the board, non-executive directors' fees, and block holder those have been considered in this research.

Much research in the past has relied on the performance matched discretionary accruals while estimating the value of earnings management. Performance matched discretionary accruals is basically developed from a cross-sectional regression of the modified Jones Model (1991). While comparing the models, the cross-sectional model by Kothari et al (2005) has been found as more effective than the time series model developed by Peasnell et al (2005).

3.2.3. Control Variables:

As per the nature of corporate governance and earnings management, the number of exogenous variables is to be controlled. The reason for that is because the estimation of earnings management gets affected by these exogenous variables.

The firm size is considered as a control variable which is calculated by the log of total asset of the firm. Firm size is considered as an exogenous variable because the larger firms can be more opportunistic to manipulate earnings. Managing earnings downward becomes their prime importance to avoid the political costs (Watts and Zimmerman, 1978). Further, according to Zalata & Roberts (2006), they identified that the user of the financial statement finds really difficult to detect overstatement of assets, liabilities and other components of financial statements because of the larger firm size and the nature of the complexity. In contrast, there is other evidence (Atik, 2009) which argued that the larger firms have less opportunity to manipulate earnings quality as the governance of the internal processes and external processes are strongly monitored.

The other exogenous variable is considered as the profitability of the firm which is measured by return on asset (ROA). As per the findings by Jaggi et al. (2009), ROA has negative relationship with earnings management while other researcher Kasznik (1999) has identified positive relationship between return on asset and earnings management. However, in this research, both firm size and return on asset are considered as non-directional prediction because of the different types of impact on earnings management.

Further, the other exogenous variable is considered as Leverage (LEV) as Bekiris & Doukakis (2011) identified that earnings management can be negatively impacted by firm capital structure. On the contrary, the other researchers Othman & Zeghal (2006) has identified that firm capital structure is positively associated with earnings management; hence, the sign of the coefficient has been ignored in this research (Dimitropoulos & Asteriou, 2010).

3.3. Model Specification

This paper basically deals with testing hypothesis by considering OLS (ordinary least square) analysis (e.g., Elghuweel et al., 2017; Zona et al., 2018) to identify the impact of corporate governance on earnings quality.

Hence, the empirical model is formed as below:

$$DAC_{i,t} = Boardsize_{i,t} + Boardind_{i,t} + Brdmeet_{i,t} + Femaleboard_{i,t} + NEDFee_{i,t} + Blockholder_{i,t} + Leverage_{i,t} + CFO_{i,t} + ROA_{i,t} + Size_{i,t} \dots\dots\dots (v)$$

$DAC_{i,t}$ = Discretionary Accruals (for firm i during the time t) in its absolute value based on performance matched discretionary accruals Model, where discretionary accruals have been considered as a proxy of earnings management. Further, this paper presents the empirical analyses, comprising the descriptive statistics, bivariate correlations & multivariate regression.

4. Empirical Analysis

4.1. Descriptive statistics and Analysis

Table 2: Descriptive statistics

Descriptive Statistics										
	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Panel A: Dependent Variable; Earnings management										
DAC	1520	0.0002	1.3384	0.4882	0.3139	0.0985	0.125	0.063	-1.050	0.125
Panel B: Independent Variables; Corporate Governance										
BoardSize	1520	3.0000	16.0000	9.8289	2.4524	6.0142	0.104	0.063	0.089	0.125
BoardInd	1520	30.0000	70.0000	48.7529	8.0342	64.5476	0.210	0.063	-0.376	0.125
BrdMeet	1520	4.0000	8.0000	4.7533	0.9153	0.8377	1.229	0.063	0.974	0.125
FemaleBoard	1520	13.3333	100.000	46.9460	14.0105	196.2955	0.391	0.063	0.065	0.125
NEDMeet	1520	0.0000	1.0000	0.7368	0.4405	0.1940	-1.077	0.063	-0.842	0.125
NEDFee	1520	26341.7	98135.8	51963.9	15177.4	230352111.3	0.544	0.063	-0.577	0.125
Blockholder	1520	0.0000	1.0000	0.7007	0.4581	0.2099	-0.877	0.063	-1.232	0.125
Panel C: Control Variables										
Size effect	1520	0.0000	1.0000	0.2493	0.4328	0.1873	1.160	0.063	-0.655	0.125
ROA	1520	-63.2525	311.173	8.3777	18.5684	344.7854	9.581	0.063	129.379	0.125
CFO/TA	1520	-6.2717	0.9915	0.0231	0.4065	0.1653	-3.821	0.063	47.596	0.125
Growth	1520	0.1330	850.713	29.1752	49.1624	2416.9384	8.803	0.063	107.791	0.125
Leverage	1520	-211.8571	330.92	0.6223	16.3619	267.7121	13.255	0.063	301.635	0.125
Valid N (listwise)	1520									

The concern on earnings management has been immensely an important topic of discussion since 2000 and after. Currently, the discussion on this topic has not prioritised, hence, this research has been done to re-open the discussion on earnings manipulation. From above table, the absolute minimum value of earnings management is 0.001 which is similar value to the previous research done by Klein (2002) based on the US firms. However, the absolute minimum value is quite far away from the absolute mean value (0.49) which is different from the researchers of the past researchers (Habbash, 2009). The difference between minimum value and mean value was quite closer in the research done in the past literatures as the minimum value is 0.0001 and the mean value is 0.05. Hence, it can be said that the practice of earnings management in recent days are widely made. Similarly, the absolute mean based on Canadian firms are found as 0.06 and 0.03 based on the French firms by Zeghal (2006). Moreover, it can be argued that the various values of discretionary accrual between firms signifies that the different managers have different level of opportunistic behaviours and different level of discretionary rights.

4.2. Correlation Coefficient

Table 3: Correlation Test

Correlations											
	DAC	BoardSize	BoardInd	BrdMeet	FemaleBoard	NED Fee	Blockholder	Size effect	ROA	CFO/TA	Leverage
DAC	1.0										
BoardSize	0.0	1.0									
BoardInd	0.0	.115**	1.0								
BrdMeet	0.0	-.157**	-.065*	1.0							
FemaleBoard	0.0	-.567**	0.0	.146**	1.0						
NEDFee	.092**	.116**	-.066*	0.0	0.0	1.0					
Blockholder	0.0	0.0	.382**	-.051*	0.0	-.058*	1.0				
Size effect	.132**	0.0	-.072**	0.0	0.0	0.0	0.0	1.0			
ROA	0.0	0.0	.104**	-.057*	0.0	.084**	0.0	-.06*	1.0		
CFO/TA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-.07**	0.0	1.0	
Leverage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

There is no concern on the collinearity matter in this model; hence, other independent variables have not any type of threat. While making close observation on the value of Pearson correlation, it has been identified that the highest correlation which is about -0.567; between board independence and presence of female members in the board but this value is considered as adoptable and advised as no harm for the model. While analysing the research paper by Abdul Rahman and Ali et al (2006), it has been found that they have considered 77% of the Pearson correlation value and reported that there is no harm in this matter. This concerns have been importantly dealt and identified that many prior researchers have similar type of concerns. Gujarati, (2003) has recommended that the threat of the multi-collinearity threshold is 0.80. Some Other Researchers Yang (2010), Trisnawati et al (2015), Soyemi et al (2017) have claimed that the threshold of the multi-collinearity concerns between the independent variables can be up to 0.9. Hence, the Pearson Correlation in the above table signifies that there are no issues in between independent variables.

4.3. Hypothesis Testing

Table 4: Multivariate Analysis

Coefficients ^a					
Model	Unstandardized coefficients		T	Sig.	
	B	Std. error			
1	(Constant)	0.412	0.093	4.439	0

BoardSize	0.001	0.004	0.133	0.894
BoardInd	-0.002	0.001	-1.431	0.015
BrdMeet	0.006	0.009	0.669	0.503
FemaleBoard	-0.001	0.001	-0.82	0.413
NEDFee	0.000002	0	3.28	0.001
Blockholder	0.041	0.019	2.168	0.03
Size effect	0.094	0.019	5.045	0
Leverage	0	0	0.796	0.426
CFO/TA	0.004	0.02	0.188	0.851
ROA	0	0	0.639	0.523

The table 4 incorporates the variables of corporate governance. These variables are included in the first model to identify the impact of the variables of the corporate governance on the earnings management. The estimation of the discretionary accruals has been identified; therefore, the proxy of earnings management has been considered as discretionary accruals.

In the table the positive and negative sign represents the relationship of the independent variables with the dependent variable. This study has adopted earnings management as an independent variable. The table also presents the P-value. This p-value actually represents the significance of the relationship between an independent variable and dependent variables.

As this table presents the β -value and P-value, the hypotheses test has been made clearer and easy to make interpretation. This clearly shows the type of relationship; whether positive or negative, between dependent and independent variables. The hypotheses created based on each independent variable has been individually dealt as the following.

4.3.1. Board Independence

H1: The relationship between independent boards and discretionary accruals is negatively associated.

As mentioned in the hypothesis testing, the proportion of the board independence and the earnings management have negative relationship with each other. As per the result found in the table, coefficient $\beta = -0.002$, and P value is less than 0.05). This study finds that board independence has significantly negative relationship with earnings management. This finding is similar to the findings based on Anglo-American countries.

Further, the result found in this research is similar to the previous research based on UK data by Peasnell et al. (2005). In the finding they have identified that the independence of the board directors is negatively related to managerial discretionary rights, especially while performing income-increasing earnings management; hence, they perform the task to eliminate reporting losses and earnings reductions.

These results contradict with findings of some Asian countries like Malaysia (Atik, 2009), Indonesia (Siregar & Utama, 2008) and Hong Kong (Jaggi et al, 2009), Kumar (2017). The results based on those countries have been found as no significant relationship between outside directors and earnings management.

4.3.2. Board Meetings

H2: The relationship between Board meetings and earnings management is negatively associated.

As per the expectations, the result is not consistent with hypothesis. It is positive coefficients, and p-value is greater than 0.05 which represents that there is no significant relationship between reducing earnings management and increasing number of board meetings.

There are various opinions on this variable of the corporate governance. The meeting held by the board is not to control the practice of abnormal accrual, it is rather to focus on the urgent manner of the business planning and decision making. This was interpreted and alluded in research by Wu (1973) and Lorsch &

Maclver (1989). As per their papers, it has been explained that the meeting is held in urgent matter, hence, there is increment in the numbers of meeting if the business complexities grow. Hence, it cannot be concluded that the number of meetings causes the improvement in the earnings quality.

While making observation on the result of the impact of board size on earnings management, it can be argued that the number of members in the board have negative impact on earnings management, on the other hand, the number of meetings of the board have no significant relationship in earnings quality. Hence, the conclusion can be as the larger numbers of the directors, it is difficult to come to the conclusive decision, hence, the frequency of meetings can be higher since the constructive and potential decision out of the meeting have not been achieved. Therefore, the fruitful decision can be occurred with a smaller number of members in the board. Considering board size in this study, generally, the board size in FTSE350 companies have been larger, the board meetings have not been effective.

Despite of the above interpretation, it cannot be in explained that activities of managers are less effective in terms of delegating meetings to constrain the abnormal accruals. The regressors used in this study cannot ensure that this is the perfect outcome as quantitative research methods cannot measure capture other many measures of the board diligence (Carcello et al, 2002; Beperi et al, 2013).

4.3.3. Board Size

H3: The relationship between board size and discretionary accruals is negatively associated.

The hypothesis, in terms of the relationship between board size and abnormal accrual has not been rejected; hence, it is argued that the there is no significant relationship between board size and earnings management. This study is in the line with the research evidence from Taiwanese and Malaysian firms by Kao & Chen (2004) and Abdul and Ali (2006) respectively. Bhattacharya et al (2015) have also commented that the board size is significantly related to the manipulation of earnings quality and the recommended that the are negatively associated.

However, this finding is different from Defond and Jiambalvo (1994), John and Senbet (2012), Cimini et al (2015) who have identified that the board size constrains the practice of earnings management, hence, have negative relationship to each other. The argument is that the larger board comprises expertise from accounting and finance background, experienced people. They also argued that the inclusion of more members attracts the opportunity to involve the independent directors.

Despite of the hypothesis being rejected in this study; it cannot be argued that the smaller sizes of the board are less effective. If the comparison is made from the relationship of abnormal accruals to board meetings and board size; the similar kind of effect have been found. The number of meetings in this study have not been found as effective corporate governance variables to constrain earnings management and so the board size do. There are compatibilities in board size and board meetings in relation to controlling earnings management, which concludes that there is no significant relationship between abnormal accruals and board size.

4.3.4. Board Gender diversity

H4: The relationship between number of women in the board and earnings management is negatively associated.

The hypothesis overlooks the view of the negative relationship between the presence of female members in the board. This study finds that there is no significant relationship between the female presence and earnings quality. Therefore, the findings in this study does not support the view that the gender diversity can restrain the earnings management.

Some research based on past papers have identified that there is positive impact on earnings quality by the presence of female members in the board. Huse & Solberg, (2016) argue that the nature of women is risk averse; and concludes that gender is the factor which is effective in ethical aspects of the business activities.

Further, it has not been identified, so far, in the research based on UK corporations, that the presence of women in the board has impact earnings quality. This may be because the presence of female members in the board is not still sufficient so that they can make significant impact in this matter.

However, the presence of women has been increased in recent days which is supported by this study too. In the descriptive study, the average value of the presence of female in the board is 46.7% which was

only 33% as per the research conducted by Maurya, (2015). Hence, this study advises that to make significant impact on earnings quality, the presence of women and their activities still need to be increased in the board.

4.3.5. *Non-executive Director's Fees*

H5: The relationship between non-executive director's fees and earnings management is negatively associated.

This study based on FTSE350 companies of the UK, has identified that non-executive director's fees are positively associated to earnings management and this is in significant level where Coefficient = -0.000002 and P-value = 0.001. This finding is consistent with the notion that committed independent outside directors are effective monitors of accrual management and that firms with highly paid outside directors tend to be less involved in accrual management.

The finding of this study suggests that the contribution of the non-executive directors is measured as per the fees paid to them. They have to spend a lot of time and energy to play the role in the board meetings and various business agendas. Hence, these results, in fact, supports that UK regularity 231 recommendations on Greenbury's guidance that there should be payment to non-executive directors for their time and effort.

This result provides modest support for the findings of Adams and Ferreira (2008) who use a large panel data set on directors' attendance at board meetings in publicly listed firms for the period from 2005 to 2012. They provide robust evidence that directors are less likely to have attendance problems at board meetings when board meeting fees are higher. They suggest that directors appear to perform their monitoring roles for even very small financial rewards.

4.3.6. *Block holder's Ownership*

H6: The relationship between a block holding of 10% or more; and earnings management is negatively associated.

While analysing data, in the table above, it has been identified that block holder's ownership is positively related to the value of discretionary accruals, and they are highly significant. The coefficient is 0.041 and p-value is 0.030. This finding is not on the line with hypothesis as the hypothesis is created as they have negative relations. This finding contradicts while the hypothesis presents the negative relationship with reducing earnings management.

As recommended by Jensen and Meckling (1976), Zang (2011), Park (2017) the shareholders who owns higher level of stock in the organisation exerts pressure to the management in terms of lowering the opportunistic behaviour of the managers. This actually reduces the agency problem, but this study argued that there is positive relationship between the manipulation of the earnings quality and block-holder's ownership. This approves that the block holders are not effective attribute as suggest by agency theorists in terms of reducing the agency problem and controlling the earnings management practices.

In terms of the relationship between earnings management and block holders' ownership, the prior researchers have not contributed much in this context. However, Abdul and Haniffa (2005), Pratiwi and Siregar (2019) have made empirical study to investigate the impact of block holder's ownership on the quality of earnings, but their study also has not found the controlling impact on the discretionary accruals. Further, in context of the UK organisation, Goergen et al, (2005), Persakes and Latridis (2018) have developed the opinion that the corporate governance system who has practised the institutional ownership, managerial ownership and block holder's ownership, they create their specific type of agency cost and problems.

The findings of the research have been supported by Zhong et al, (2007) who has identified that the block holders' want to control the earnings management if their control on the management is higher than the shareholders; at the same time, these block holders may be influenced by obtaining higher return, hence, they may exert pressure to the management for earnings manipulation. He has studied about this topic based on US firms; 1994 to 2003. They have concluded that the block holders do not have power to control the earnings management when they have small portion of the shares; hence, cannot have influence on earnings quality. However, when they obtain significant number of shares, they actually put pressure on the management to obtain the higher return, hence, higher manipulation.

5. Conclusion and Areas for Future Research

There are substantial numbers of research being carried out under the effects of corporate governance on the discretionary accruals. The findings in most of the research are mixed. The outcome in this study too is mixed. Board size and female board have insignificant relations with earnings management whereas board independence, board meetings and non-executive directors' fees have negative significant relationship with discretionary accruals.

The research has considered the performance matched discretionary accruals model to estimate the value of earnings management. This study presents the importance of board independence in terms of reducing the practice of earnings management. The relationship is highly significance at 5% confidence level.

The research provides some major contributions to the existing discourse of this topic area. First, the data is collected from FTSE350 companies who are abided to follow the UK corporate governance code which actually helps to measure the impacts of corporate governance on earnings management realistically. This provides specific insights under the topic area.

Secondly, this research mainly considers the corporate governance variables rather than other factors like another institutional environment and structural. This study also highlights the importance of internal corporate governance in terms of controlling the values of earnings management. Further, the institutional environment and the discretionary rights of the managers can influence in controlling earnings quality.

This research has made several contributions in the field of earnings management and corporate governance. Firstly, this research has embraced the independence of the board directors as one of the variables. Maintaining independent board becomes tougher part for the board. Hence, this research has investigated the influence of board independence on earnings management in FTSE350 companies. Secondly, this study creates the awareness by which users of financial statement can go through additional scrutiny while making financial and non-financial decisions. Thirdly, the reliance on financial statement is very crucial for the users of financial statement. This research actually alerts the stakeholders and other users of the financial statements and also provide the credibility on the financial information of the company. Fourthly, these outcomes also alarm the regulators and policy makers to bring changes in adopting the rules and regulations of the accounting principles and corporate governance principles while preparing financial statements.

This research is entirely based on the data of the UK, FTSE350. In the future, the research can consider other countries and make comparative analysis to identify what sort of corporate governance can effectively monitor the earnings manipulations. The real earnings management has not been under the consideration in this research which could be further investigated and find the impacts of corporate governance on real earnings management.

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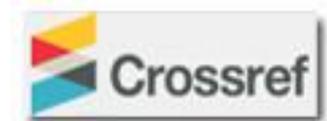
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