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Contents

| No | Title | Page |
|-----------|---|-------------|
| 1. | <i>Financial impact of using EUR call options to hedge accounts receivables</i> | 1 |
| 2. | <i>COVID-19 implication on higher education: case study at Medgar Evers College - what we have learned and realized through abrupt online conversion</i> | 10 |
| 3. | <i>Investigating the level of entrepreneurial orientation and desire for self-employment of students in selected tertiary institutions, North-East Nigeria</i> | 21 |
| 4. | <i>A review of accounting developments in Africa</i> | 32 |
| 5. | <i>The effect of enterprise resource planning on the organizational performance of organizations through HRM practices. An Applied Study on the Reinforcing Steel Sector Companies in Egypt</i> | 41 |
| 6. | <i>A theoretical and analytical framework to the inquiry of sustainable land management practices</i> | 57 |
| 7. | <i>Supply chain management practices, innovation capabilities and operational performance: Empirical evidence from the FMCG sector</i> | 70 |
| 8. | <i>The business transformation enterprise architecture framework for innovation. The role of artificial intelligence in the global business education (RAIGBE)</i> | 82 |
| 9. | <i>Electricity outages and its effect on small and medium scale enterprises (SMEs) in Nigeria</i> | 98 |
| 10. | <i>Business transformation projects-virtual reality systems (VRS)</i> | 106 |
| 11. | <i>Vertical integration and financial performance in African emerging economies: Case Study of Olam Nigeria Limited, Nigeria</i> | 117 |
| 12. | <i>An investigation of the prevalence of stress among graduate and post-graduate Indian students during COVID 19 pandemic by means of factor analysis</i> | 128 |
| 13. | <i>Thailand 4.0: A new value-based economy and its implication on wellness business</i> | 137 |
| 14. | <i>Factors influencing the intentions of financial planners to adopt Robo-advisors</i> | 141 |
| 15. | <i>Developing a framework for managing household debt. The case of South Africa</i> | 153 |
| 16. | <i>The impact of corruption on service delivery: a topical matter in the South African Municipalities</i> | 165 |
| 17. | <i>Role of fashion as a form of therapy among women with disabilities in South African</i> | 170 |
| 18. | <i>Probing the efficacy of local economic development in South African Municipalities: A case of POLOKWANE local municipality</i> | 179 |
| 19. | <i>Social business under the youth guarantee: Experience from the ground in Albania</i> | 186 |
| 20. | <i>The construction of occupational professionalism among business rescue practitioners supplying professional bodies.</i> | 193 |
| 21. | <i>The impact of assistance in development of different sectors of the economy - the case of Kosovo</i> | 219 |
| 22. | <i>Modelling owner's physiognomies & incitements for the adoption of enterprise application architecture for supply chain management in small and medium enterprises: A case of Capricorn District Municipality</i> | 231 |
| 23. | <i>The relationship between the National Senior Certificate and the National Benchmark Test for accounting students at a South African university</i> | 242 |
| 24. | <i>How to Measure the Performance of Social Innovation? Case Study of Hungarian Social Cooperatives</i> | 250 |
| 25. | <i>The role of entrepreneurship in achieving competitive advantage</i> | 262 |

| | | |
|-----|--|-----|
| 26. | <i>Aligning digital literacy and student academic success: Lessons learned from COVID-19 pandemic</i> | 275 |
| 27. | <i>The future of work: Remote work in the emerging new normal</i> | 285 |
| 28. | <i>Innovating the Design and Implementation of an Integrated and Sustainable Waste Management System (ISWMS)-A hybrid approach</i> | 293 |

Financial impact of using EUR call options to hedge accounts receivables

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Keywords

Exchange rates, payables, EUR/USD, call options, hedging

Abstract

International business has grown rapidly in recent years as companies seek to take advantage of expanding supply chain opportunities. As companies enter into contracts to take advantage of engineering, production, and cost reduction capabilities of the global supply chain, they may be creating a foreign currency exchange rate risk. The quantitative study examined the 60-day EUR/USD exchange rate fluctuation and the use of currency call options to hedge the risk associated with EUR/USD currency fluctuations. The researcher analyzed 13 years of historical EUR/USD currency data and 10 years of actual EUR call options premiums for this research paper. The researcher concluded that the variability of the EUR/USD over 60-days does pose financial risk to a company. The study also found that using currency call options to hedge this 60-day exchange rate risk resulted in an overall transactional financial loss as compared to no hedging. However, research studies have shown that the use of hedging instruments to smooth financial results may result in lower overall financing costs which could offset the hedging transactional costs. This study did not address the benefits of the use of hedging to smooth financial results or obtain other related financial benefits. The researcher recommends that a firm should recognize the exchange rate risks it may be establishing within 60-day EUR or USD payable contracts and develop an appropriate hedging strategy.

1.0 Introduction

To capture opportunities in the supply chain, many companies have expanded into foreign markets to develop foreign suppliers. These contractual arrangements may have required companies to issue an order in a foreign currency upon which the companies faced a foreign exchange currency risk. In other words, the companies face circumstances where the value of an order to a supplier may have changed from the time the order was issued until payment. The problem is that companies who have contracted with a foreign supplier are likely to face foreign currency exchange risks which can result in significant financial impacts (Bloom and Cenker, 2008; Edens, 2010; Moosa, 2004; Spreckelsen et al., 2014; Treanor et al., 2014; Veestraeten, 2013). Broll and Wong (2015) stated that hedging currency risk exposure is essential for multinational companies. This paper studies the top currency pair used in international trading, the United States Dollar (USD) and the European Union Euro (EUR), to determine if a company should consider using currency options to hedge an exchange rate risk (Costantini et al., 2016; Galeshchuk and Mukherjee, 2017). Currencies are listed in pairs with the first currency listed standing for one unit of that currency, the second currency is the amount of that currency required to purchase one unit of the first currency. If the EUR/USD exchange rate is listed as 1.3005, then it costs 1.3005 USD to purchase one EUR.

The researcher studied the use of currency call options to hedge the risk of EUR/USD currency fluctuations. Call options give the firm the right but not the obligation to purchase currency for a fixed price during a specific period of time. A firm in the United States could purchase an EUR call option to hedge an account payable. If the EUR strengthened, the firm could exercise the option and obtain the EUR for the fixed price. For example, from January 12, 2011, to March 14, 2011, the EUR appreciated by 6.5% against the USD, which would have increased a 1,000,000 EUR payable from \$1,313,700 to \$1,399,000, a \$85,300 increase. A loss of \$85,300 in the span of 60 days could negate a profitable transaction. An importer could have hedged this currency risk with a 60-day EUR call option costing approximately \$34,300.

For this study, historical data were used when analyzing the premium for call options to determine if the cost of purchasing these options could be less than the benefits of the hedge (Spreckelsen et al., 2014; Stulz, 2013). In other words, actual historical pricing data were used for the call option premiums to determine if the net benefit was favorable. The advantages of using currency options to hedge 60-day accounts payable must be considered against the actual premium of the option (Moosa, 2004). Historical option prices for the EUR/USD 60-day call options from 2007 to 2016 were used, along with the corresponding historical EUR/USD currency data. This 10-year timeframe contained both recessionary and expansionary economic conditions, which increases the reliability of the study.

Figure 1 shows the premium for call options that could have been purchased to hedge a 60-day accounts payable liability. The premium escalated during the 2007-2009 recession which was also a period of high levels of economic instability. This increasing premium during a period of economic instability is consistent with theoretical option pricing formula, including the often used Black-Scholes option pricing model (Charvin et al., 2014; Manzur et al., 2010).

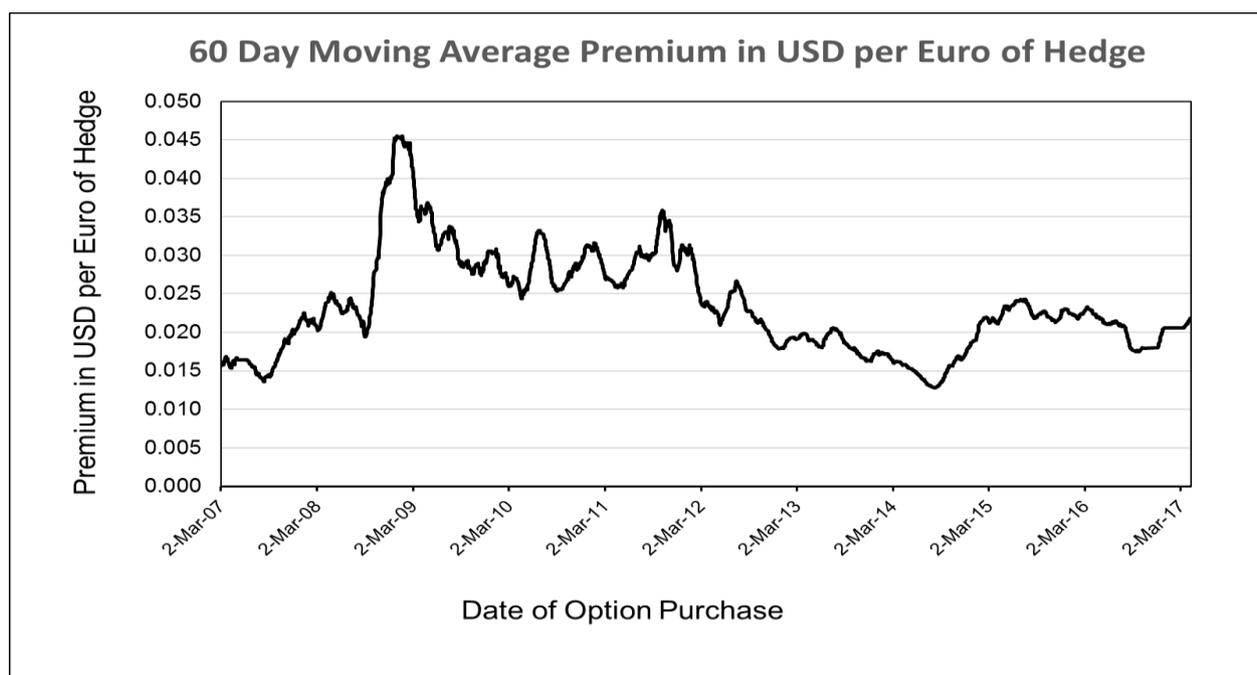


Figure 1. Line plot of the 60-day moving average premium of a EUR call option from March 2007 to March 2017.

2.0 Literature review

Companies are increasingly looking internationally to expand their markets, obtain critical resources, develop new capabilities, and reduce costs. Firms which have expanded into the international marketplace are likely to face the risks of currency fluctuations and as such they may need to consider how to manage these risks. Active risk management and the use of derivatives have been shown to increase valuation and improve financial results.

The use of options to manage risks and the pricing of these options have been studied, however, the majority of the studies use theoretical option prices, not historical option prices. The author used actual option prices as incurred on the Chicago Mercantile Exchange to avoid the errors found in traditional option price calculation. The literature review supports the increasing use of global suppliers, the exchange rate risk associated with these global supplies, and the use of hedging instruments to address these risks.

Companies are increasingly establishing strategic relations with outside suppliers to deliver improvements in costs, process efficiencies, innovation, and customer services. This increase in outside supplier contracts has involved manufacturing activities and such traditional in-house activities as

engineering, research and development, administration, and management functions. A firm using global outsourcing can focus on core competencies while seeking low-cost, global sources with the appropriate quality and delivery capabilities. Global outsourcing allows the firm to minimize fixed costs and maintain a high degree of asset utilization (Doval, 2016).

The FOREX market is large and liquid with currencies being traded on a constant basis (Baranga, 2016; Cevik et al., 2017; Pilbeam and Langeland, 2015). The valuation of currencies involves a complex set of factors, including economic conditions, interest rates, consumer sentiment, the political environment, taxes, and global trading conditions (Engel, 2016; Kumar and Joshi, 2014). Risk managers consider currency exchange rate fluctuations as a significant risk factor which may reduce firm value through the impact on cash flows (Parlapiano et al., 2017). The buying and selling of foreign currency forwards, futures, and/or options are used to cover short exposures such as payables, or long exposure such as receivables (Moosa, 2004). Companies who have successfully addressed the foreign currency risks have more predictable financial results and once the hedging instruments are in-place, these companies are able to focus their efforts on more value-added activities. By using hedging instruments, companies can narrow the distribution of probable cash flow which lowers the likelihood of financial distress (Edens, 2010; Magee, 2013).

An international company's supply chain may be impacted by currency rate fluctuations according to Mishler (2017). The impact of the currency rate changes could negatively affect the importer, the supplier, the distribution channel, or even the end user. Multinational companies, especially small and medium sized firms can be assisted by a comprehensive exchange rate management strategy. An effective currency risk management strategy is executed by both the financial and purchasing organizations. The strategy identifies the risk exposure and determines when and how to mitigate the risks. The use of foreign currency options is a common hedging vehicle (Mishler, 2017).

Managing currency risks is an important part of managing a global corporation (Broll and Wong, 2015). The fluctuations in global currencies are a major concern for multinational companies as profitability can be significantly impacted by currency variations. Trading of hedging instruments between the home currency and the foreign currency helps a multinational corporation manage its risk. Less developed countries and emerging markets may not even have their currencies traded in the futures or forwards markets. For these countries, an organization may be able to use a hedging instrument for a traded currency which has movements that are similar to the emerging market currency.

Perez-Gonzalez and Yun (2013) stated that the value of risk management and specifically hedging is a highly debated issue in corporate finance. Theoretical studies have shown that in a frictionless setting, hedging is not relevant for firm value, however, risk management and hedging in particular have experienced rapid growth. The authors found evidence that the use of derivatives to manage risk leads to higher firm value and increased investments. The use of hedging instruments such as forwards and futures enhance the reputation of an organization which may result in more favorable terms for other types of financial transactions (Campello et al., 2011). Hedging works as a mechanism that limits the risk of negative cash flows which helps firms get access to external funding.

Firms with high-risk foreign contracts benefit from lower financing costs when these high-risk contracts are appropriately hedged. When companies have future payments, costs, or asset purchases planned in a foreign currency then the companies are facing currency risk. This currency risk can have a substantial impact profitability and cash flow for the multinational firm (Frishberg and Gobble, 2013). Companies can be exposed to adverse changes in interest rates, commodity prices, and foreign currency exchange rates therefore hedging strategies should be part of the top-level strategic plan (McMillan and Overall, 2017). Smaller companies can benefit from the cost savings and increased flexibilities with outsourcing however, these companies often overlook the risks associated with exchange rate fluctuations (Gylling et al., 2015).

Low and Zhang (2005) studied foreign currency options for the GBP, the EUR, the JPY and the CHF and found that buyers in the options market pay a premium to the sellers to compensate the sellers for bearing the volatility risk. The Low and Zhang (2005) study confirmed that market volatility impacts EUR/USD option pricing which is demonstrated in the increase in option pricing during the global

financial crisis. The study does not address the net benefit, if any, from using options as a hedging instrument during times of high or normal volatility.

This quantitative study examined the historical fluctuation of the EUR/USD currency pair. The USD and the EUR make up 63% and 20% respectively of the 2017 global foreign exchange reserves (Issing, 2018). As a global means of payment in 2017, the USD makes up 40% while the EUR accounts for 36% (Issing, 2018). The European Union accounted for 35% of global foreign direct investment (FDI) inward flow and 40% of global FDI outward flow in 2014, while the U.S. accounted for 21% of global inward FDI flow and 24% of global outward FDI flow in 2014 (Witkowska, 2017). The USD and the EUR have a dominant role as a global means of payment, as reserve currencies, and in FDI flow.

3.0 Research methodology

The researcher statistically analyzed the EUR/USD currency fluctuations and option price fluctuations using statistical analysis software and developed mathematical models to analyze the net benefit of using call options to hedge the EUR/USD currency fluctuations (Ljung et al., 2014). The options modeled were approximately 60-day call options which represent a 60-day period between transaction initiation and transaction completion. For example, a call option would be useful for a company which has outsourced a product or service and is expecting to pay in foreign currency. By using data from 2007 to 2016, the study addressed the use of the EUR/USD currency options when the global economy experienced both extreme volatility and relative calm. The author used approximately 60-day options to address the relative shorter-term foreign currency risks that companies may experience in accounts payable. Kroes and Manikas (2014) found that average accounts payable days was approximately 60 days.

The EUR/USD currency option prices used in this study are actual prices from January 1, 2007, to December 31, 2016. The option prices include high volatility economic conditions which occurred during the global 2008 recession and the economic recovery. Also, included were option prices when economic conditions were relatively stable. The option prices were obtained from the Chicago Mercantile Exchange (CME Group) which each day of trading data being downloaded and converted into an Excel file. The result was 2,510 call options with an average duration of 74 days. Currency options handled by the CME Group have standard once per month closing dates and the author ensured the 60-day accounts payable currency risk would be adequately hedged in its entirety. The EUR/USD exchange rate information was downloaded to Excel from the US Federal Reserve using the FRED reporting system. The US Federal Reserve releases daily rates of exchange for major currencies against the USD on a weekly basis. The statistical analyzes in this study, includes common statistical measures such as range, skewness, standard deviation, coefficient of variation, correlation and other measures (Weltman and Eakin, 2018).

4.0 Findings/results

This research on the EUR/USD exchange rate risk shows agreement with (Bessler et al., 2019; Crowder, 2014; Frishberg and Gobble, 2013; Mishler, 2017) that foreign currency exchange rate risk is significant, and that hedging should be considered for this risk even considering a relatively short timeframe such as 60-days. The statistical analysis of the dataset from January 2, 2007, to December 31, 2019, shows that the average 60-day change in the EUR/USD exchange rate was minus .13%. During this timeframe, on average, the EUR was depreciating. The EUR/USD currency exchange rate was downloaded from the Federal Reserve database system which is a publicly available source, and the research time frame includes a global recession, recovery, and steady growth. The researcher used Excel and Minitab for the analysis with no special coding or software changes. The statistical analysis indicated that skewness was -.39 and kurtosis was .64 which indicate that the data generally fits a normal curve (Aljarrah et al., 2019). A visual review of the data also indicates that a normal curve fits the data reasonably well (Saundage et al., 2016). The standard deviation of the 60-day change was 3.83% with a maximum depreciation of the EUR versus the USD of 15% and a maximum appreciation of 12%. A firm could expect that 32% of the time the variance of 60-day accounts payable would be higher than 3.83%. In the worst-case scenario, during the study period, a firm could have incurred an increase of 12% in expense for a payable liability over a 60-day period. Table 2 shows the descriptive statistics for the EUR/USD fluctuations over a 60-day time frame.

| Statistic | Values |
|-------------------------------|--------|
| Average EUR/USD exchange rate | 1.2737 |
| N | 3,204 |
| Mean | -.13% |
| Minimum | -15% |
| Maximum | +12% |

Table 2 Descriptive Statistics for the EUR/USD Change Over an Approximate 60-Day Time Frame

As shown in Figure 3, the percentage change over a 60-day timeframe was fairly aligned with a normal distribution. Using the data from the 13-year time period from 2007 to 2019, a company could be 95% confident that the 60-day currency exchange rate would move between -8.2% to +8.2%.

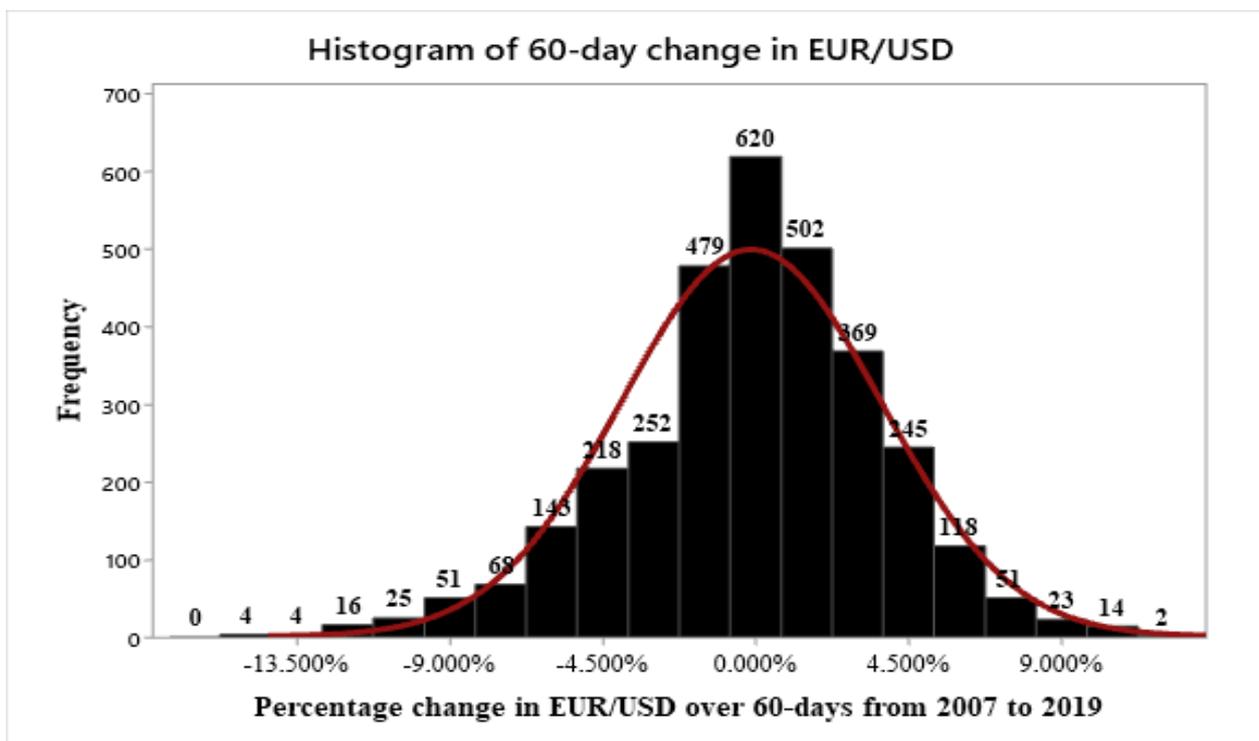


Figure 2. Histogram of the 60-day percentage change in the EUR/USD exchange rate overlaid with a normal curve.

The results of the analysis of using EUR currency call options to hedge 60-day payables is consistent with previous option price research studies such as Charvin (2014) and Vanderlinden (2014). The study shows that hedging every 60-day accounts payable transaction with a currency call option, during the study period, 2007 to 2016, will result in a negative net transactional benefit to a company. Currency call options give the firm the right but not the obligation to obtain EUR for a set price, called the strike price, on a specific date. For this risk protection the firm pays a fee for the option which is called the premium. The analysis uses 2,510 daily records of EUR/USD call option data spanning January 1, 2007, to December 31, 2016. US holidays and weekends are not included when the option market is closed. The daily EUR/USD call options were selected for the analysis using two criteria: the daily call option with the EUR/USD strike price closest to the EUR/USD spot; and the EUR/USD call option with expiration closest to 60 days but not under in most cases. This methodology of selecting the strike price and time frame for the option hedging instrument was used by Manzur et al. (2010), while VanderLinden (2014) used a similar methodology for selecting the options for analysis, setting strike equal to 95% of the current spot price.

For this study, the first opportunity to purchase an option to hedge an accounts payable transaction occurred on January 2, 2007, meaning that the 60-day accounts payable would mature on March 2, 2007. The last opportunity to purchase a call option would be November 2, 2016, with the accounts payable maturing on December 30, 2016. The total number of opportunities to purchase and exercise the EUR/USD call options was 2,469. Assuming that a EUR/USD call option for 125,000 EUR was purchased for each of the 2,469 possible transactions, the total premium would have been 7,261,563 USD to hedge a total of 308,625,000 EUR accounts payable. The average cost to hedge 125,000 EUR was 2,931 USD. Using the average exchange rate of 1.3122 for the study period, the USD value of the 125,000 EUR hedge would have been on average 164,025 USD which calculates to premium costs of approximately 1.79% (2,931 USD/164,025 USD).

The study shows that approximately, 49% of the call options would be exercised. The overall loss on this level of hedging would be 1,613,513 USD. The total value hedged would have been 308,625,000 EUR or using the average price of the EUR of 1.3122 USD, the value of the hedge would have been 405,022,488 USD. The overall loss for this hedging policy would have been .4% (1,613,513 / 405,022,488). During the study period an unhedged position would have netted 1,218,963 USD or .3% due to the overall movement of the EUR/USD during this time frame. Although the policy of hedging every EUR payable over this time frame would have resulted in a negative net transactional cost, the firm would have avoided 215 instances where the non-hedged position would have a currency exchange loss of greater than 5%. The company would have to consider the ramifications of a greater than 5% currency loss on 8.7% of its EUR payables transactions. Currency hedging instruments allow a company to better manage risk and predict cash flow and earnings. Studies have shown that a firm with a well-constructed currency management plan will likely improve its financial predictability and banking relations (Edens, 2010; Pérez-González and Yun, 2013; Wong, 2017).

For treasury, finance, and purchasing executives and managers this study shows that the EUR/USD does fluctuate over a 60-day time frame with enough volatility to justify the consideration of a hedging strategy. The study also shows that currency options can be used to hedge the currency risk however, the cost of the hedge is greater than the net benefit. During the study time frame from 2007 to 2019, a firm which did no hedging would have experienced a 0.3% currency gain on a 60-day accounts payable. A firm using a EUR option to hedge every payable transaction would have experienced a 0.4% overall loss on currency movement due to the premium (cost) of the hedging instrument which agrees with the findings of Bayas (2018). However, a firm using options to hedge the EUR/USD currency risk could have benefited from more consistent financial reporting and cash flow (Edens, 2010).

When conducting business on an international basis and transacting in foreign currency the organization is taking a risk on foreign currency fluctuations. The analysis in this paper indicates that even the highest traded currency pair, the EUR/USD, has enough volatility to warrant consideration of a hedging strategy. A firm's treasurer, finance and purchasing leadership should consider the variability of the EUR/USD exchange rate when planning the business. The use of options to hedge currency risks protects the financial assets of the organization and may improve stakeholder well-being by smoothing cash flow and income which allow the organization to better plan its activities. As Proverbs 14:15 says "the simple believe anything, but the prudent give thought to their steps" (NIV). Treasurers, financial and purchasing executives as good stewards should carefully consider the steps, they take in addressing exchange rate risks contained in the firm's contracts even over the relatively short time frame such as experienced with payables.

5.0 Discussions and conclusions

The results of this study indicate that a firm should recognize the exchange rate risks it may be establishing within 60-day EUR or USD payables contracts. The EUR/USD exchange rate, over the study time frame, 2007 to 2019, had a standard deviation of 3.83% with a maximum depreciation of the EUR versus the USD of 15% and a maximum appreciation of 12%. In the worst-case scenario a firm could have incurred an increase of 12% in expense for a EUR payable liability over a 60-day period. Treasurers, finance and purchasing executives should make employees, especially buyers, aware that currency volatility could impact the firm's financial results and that risk mitigation actions such as currency

hedging should be considered (Bessler et al., 2019). Both the USD and the EUR are considered as reliable, stable currencies yet the EUR/USD exchange rate has demonstrated significant volatility.

As a hedging strategy, treasurers and finance professionals may make use of currency options. Currency options have a great deal of flexibility because the buyer of an option has the right, but not the obligation, to exercise the option (VanderLinden, 2014). The buyer of an option only exercises the option when there is financial benefit. Option contracts may be used to protect the firm from downside risks however, this protection does have a cost through the premium that is charged for the purchase of an option. Treasurers and financial professionals may also consider other options for hedging EUR/USD currency risks such as futures, forwards, advanced payments, deposits and selling product into the other currency regime.

In dichotomy to the research studies supporting hedging foreign currency risks, firms may choose not to hedge foreign exchange rate risks. The use of hedging instruments adds costs and possibly staff who have the expertise to develop and execute the hedging plan. The mere mentioning of currency risks and the use of derivatives may increase stockholder awareness of these risks which could result in decreased stock price (Jankensgård, Hoffmann, & Rahmat, 2014). Investors have been known to strongly focus on the profitability of core operations and the disclosure of foreign exchange risk which clutters the income statement and balance sheet may make investors assume management is taking on more risk instead of reducing risk. As this research study shows, the net impact of the EUR/USD movement was a slight improvement in the financial results, which indicates that over the longer-term EUR/USD exchange rate variations may have little impact on the financial results.

When negotiating contracts which require foreign currency payments, supply chain management professionals must recognize the volatility of the currency exchange rate and notify and work with their finance counterparts to develop a hedging strategy. Then the financial implications of the hedging strategy should be included as part of the supplier selection process. The analysis indicates that the cost of hedging a foreign currency risk should be considered when comparing domestic versus foreign suppliers. This study indicates that the premium for purchasing EUR call options is approximately 1.8% which could be incorporated into a firm's supplier evaluation process. The USD and the EUR are highly traded currencies and as such the premium for purchasing call options is likely lower than for other currencies. Therefore, supply chain professionals may need to research the costs of hedging other currencies when analyzing and negotiating supply contracts.

6.0 Limitations and direction for future research

This study was bounded by the fluctuations and characteristics of the EUR/USD and the associated call options. The author bounded the study by using EUR/USD options with the strike that is closest to the spot price when the option was purchased (Manzur et al., 2010). For example, on December 30, 2016, there were 28 different call options available for trading with various strike prices, the author chose the call option with the strike price closes to the current spot price. The author limited the study in this manner to keep the study a reasonable size and to establish a workable methodology for firms to follow to hedge payables. The author chooses to limit the quantitative analysis to the time frame of 2007 through 2019. This time frame included both recessionary and expansion economic conditions but did not include the complete history of the EUR/USD currency trading or option trading.

The research and findings in this study add to the current literature regarding the exchange rate risks associated with 60-day foreign currency payables and the use of options to hedge shorter-term exchange rate risks. Research studies by Charvin et al. (2014), Chen et al. (2019), Ardoin and Rodriguez (2017), and Spreckelsen et al. (2014) identified research gaps in the relatively short-term frame of previous exchange rate studies and the use of theoretical option prices instead of market-based option prices. The research in this study covers a relatively long-time frame, 13 years of EUR/USD exchange rate data, and uses market price data for calculating the financial benefit of the use of options for hedging exchange rate risk. The following are recommendations for further study.

The focus of this study has been on the highest traded currency pair, the EUR/USD. Additional research into the movement of other currency pairs will add to the existing research. Research into other highly traded currency pairs such as the USD and the Chinese Yuan (CNY), the USD and the Great British Pound (GBP) and the CNY and the EUR would expand the literature on exchange rate modeling.

The criteria of the currency option selection could be varied. In this study the author chooses the option with the strike price closest to the current spot price which impacts the cost of the option. An option sectional criterion that accepts more risk but searches for options with lower premiums may provide a lower cost hedging methodology. For example, a hedger could choose an option that limits the risk to 5% which would likely reduce the cost of that option.

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COVID-19 implication on higher education: case study at Medgar Evers College - what we have learned and realized through abrupt online conversion

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Key Words: Post Pandemic Challenges for Higher Education, Case Study, COVID-19 Pandemic Lockdown, Enrollment, Student Behavior, Online Education

Abstract

The unprecedented COVID-19 global pandemic radically changed the way we do things. The face mask is now a must to put on, and you do not handshake anyone. We are not even allowed to go near any person within six feet to maintain social distancing. The sudden pandemic lockdown forced all face-to-face classes into online classes overnight. It added immense pressure and stress to both instructors and students that brought many negative consequences. The sustained disruption has challenged higher education institutions to maintain academic continuity and put them into a grave financial situation due to a substantial decline in cash flow. This paper presents a case study of the transition to online learning for the Computer Information Systems classes at Medgar Evers College during the COVID-19 pandemic lockdown. We present the method we used to maintain academic continuity, examine the challenges of abrupt online transition, and assess what we learned from its outcome. In conclusion, we discuss the threats and opportunities for higher education institutions in the post-pandemic, which might change the entire landscape of higher education.

Introduction

The unprecedented COVID-19 global pandemic crisis radically changed the way we do things. The face mask is now a must to put on, and you do not handshake anyone. You are not even allowed to go near any person within 6 feet to maintain the social distancing. The lack of social interaction, fear of a pandemic, and working at home via Zoom or other means of online communication only put immense stress and pressure on people and the typical non-issues became heightened.

The sudden outbreak of the COVID-19 pandemic and lockdown has upended business as usual for colleges and universities. All classes in typical face-to-face learning shifted to remote learning almost overnight. Confusions, fear, anxiety about uncertainty, and nervousness about the unprecedented pandemic crisis added immense pressure and stress to students, faculty, and staff alike. One thing was clear: the pandemic's impact on Higher Education Institutions (HEIs) would not be trivial. Any disruption of continuous and successful delivery of instructions and campus life to students could bring detrimental consequences, such as a decreased cash flow due to the substantial decline in enrollment. While class closures, dips in enrollment at the beginning of a new semester, and cancellations may be temporary, any sustained long-term disruption by the lockdown will result in HEIs experiencing a financial crisis and possible closure of campuses if left unaddressed.

Another threat to HEIs could be the effectiveness of online instruction and the changes in students' preferences in higher learning. Perhaps, the HEIs maintained academic continuity by converting their face-to-face classes to online classes during the lockdown. However, both students and faculty transitioned to online education at lightning speed, resulting in less content coverage and missing dynamic in-class activities and interactions. In some cases, faculty struggled to keep up with the fast-paced technology of online learning tools and could not teach online as effectively as in classrooms. Less satisfied students will start questioning the worth of education they get from HEIs and look for cheaper alternatives like for-profit online schools. Additionally, some students found online learning convenient and easy to pass courses due to less content coverage. They will push HEIs to maintain various instructional modalities even after the pandemic lockdown. Consequently, HEIs will experience more

enrollment challenges and additional expenses to keep multiple instructional modalities, resulting in a bigger cash flow problem.

Recent research shows that those HEIs serving students of color, and low-income backgrounds are the hardest hit by the above concerns. In this paper, we present a case study of the Department of Computer Information Systems (CIS) at Medgar Evers College (MEC), a predominantly black institution with approximately 96% minority and 73% female population, located in a poor region of Central Brooklyn in New York City. We present what it has learned and realized through abrupt online conversion due to the COVID-19 pandemic lockdown. In particular, we examine the pandemic lockdown's impact on enrollment at the university level, college level, program level, and course level to identify their trends and their implications on the institution's cash flow. The data shows that the lockdown's impact on MEC's enrollment was more significant and challenging than those findings in recent research reports. We also examine the students' preference of registering for face-to-face classes versus online classes for the Fall 2021 semester when the campus reopens from pandemic lockdown. We discuss the case study's findings and conclude that it is urgent for HEIs serving economically disadvantaged students and minority students to redesign their business model to survive in the post-pandemic world.

Literature Review

The COVID-19 pandemic, also known as the coronavirus pandemic, was first identified in December 2019 in Wuhan, China that was later declared a pandemic on March 11, 2020, by the World Health Organization [1]. Since then, the pandemic has affected all lives worldwide, resulting in more than 3.3 million people dying as of May 2021 [2]. This ongoing pandemic also resulted in significant global social and economic disruption. In the United States of America, President Trump declared a national emergency on March 13, 2020. The first COVID-19 deaths were reported in New York, resulting in abrupt closings of all New York City public schools on March 16, 2020 [3]. As part of the City University of New York (CUNY), MEC was forced to abruptly close the entire campus on March 16, 2020, and converted all of its face-to-face classes to online classes. A little over a year has passed since then, MEC campus is still closed, and it is now preparing to reopen in the Fall of 2021.

Numerous educational institutions and public areas worldwide have been partially or fully closed during the COVID-19 pandemic, and the implications on HEIs have been substantial. In this section, we review the top three pandemic implications on HEIs that have been reported in recent literature. Some of those implications might last longer than others, and they might change the entire landscape of the higher education industry going forward.

The first implication of the COVID-19 pandemic on HEIs is the substantial decline in enrollment. The National Student Clearinghouse Research Center released a report on Fall enrollment during the COVID-19 pandemic, which included data from most institutions in the United States. The report shows that the U.S. college enrollments in Fall 2020 have declined 2.5 percent, twice the rate of decline in Fall 2019, which was approximately 400,000 students lost [4]. In particular, the community college enrollment, which is often comprised of the largest share of students of color and students from low-income backgrounds, had the sharpest decline with freshman enrollment down 13.1 percent. The hardest-hit programs include precision products, law enforcement, firefighting, and mechanic technology, maybe because these skills are difficult to teach online. It also shows the number of high school graduates going straight to college decreased by 22 percent in Fall 2020, primarily due to the losses of lower-income and urban high school students. That has serious implications for this generation of students and our national economy since they would be vulnerable to pursue higher education anytime soon.

The second implication of the COVID-19 pandemic on HEIs is the financial crisis driven by the substantial decline in enrollment and the major recession of global economies resulting from a significant period of business lockdown. In the recent Brookings' Brown Center Chalkboard discussion forum, Stephanie Cellini, Nonresident Senior Fellow at the Brown Center on Education Policy at Brookings, found the striking difference between the dramatic decline in community college enrollment in Fall 2020 and the previous enrollment results. Typically, the enrollment in community colleges increases during the recession because an unemployed individual seeks new skills and first-time students look to gain a credential before embarking on a career path. However, in this pandemic recession, the pattern is

reversed. Declines are particularly sharp among first-time students and students of color, raising critical concerns about increasing inequality in the coming years. In contrast, enrollment is up in for-profit and online colleges. The research repeatedly finds weaker student outcomes for these types of institutions relative to community colleges, and many students who enroll in them will be left with more debt than they can reasonably repay [5].

The financial challenges faced by HEIs seem to be more significant problems. In its recent research report, the Deloitte Center for Higher Education Excellence depicted the most immediate challenge for most higher education institutions involves their cash flow [6]. A substantial drop in tuition income due to a decline in enrollment, loss of additional revenues from fees, room and board, and other auxiliary services, unexpected expenses including partial refunds on tuition and the cost of technology upgrades to scale virtual engagement modalities, and cost of implementing safe and secure return to normalcy will hemorrhage an institution's cash flow. Prestigious institutions, such as Harvard (Cambridge, MA, USA) or Oxford (UK) universities, are well placed to weather the coming storm with their rich endowments. But places that fall lower down the league tables are vulnerable, especially if international student fees form a big part of their income [7]. Even worse for those HEIs already financially stressed or operating from a deficit position before the pandemic, unanticipated short-term expenses and longer-term enrollment declines will likely threaten their solvency, potentially forcing numerous closures and mergers. Similar concerns and outlooks for HEIs in other countries are addressed in a recent report prepared by the technical team of the UNESCO International Institute for Higher Education [8].

The third implication of the COVID-19 pandemic on HEIs is the change of students' learning behaviors due to the lengthy lockdown period. The COVID-19 campus closures have been going on for over a year. Classes have been delivered to students remotely, either synchronously or asynchronously online, or combining face-to-face learning and online learning in hybrid form. Research shows that ordinary people acquire new habits if certain actions are repeated daily for 18 to 254 days [9]. Students, faculty and staff, and other stakeholders have been pushed out of their comfort zones to convert traditional face-to-face interaction into online engagement for over a year. They now realize that they liked some COVID-19 schooling changes and adapted to new online habits. For example, students found the online or hybrid classes were convenient and easy to pass courses, while faculty liked the flexibility of teaching courses online at home. As a result, some of them will push HEIs to maintain various instructional modality offerings even after the COVID-19 pandemic [5]. This implication would accompany several significant consequences to the future sustainability of many HEIs. For example, the downgrading of the student experience and the downgrading of the degree's value would make their graduate employment difficult, especially in the COVID-19 recession [7].

Also, the instructional modality changes sped up student's access to free digital learning content available. As students discovered that they could learn course contents without paying any fees, why would they enroll in HEIs and pay high tuition? Some might say that education is not only about learning the contents but also learning about other important social qualities that students acquire at HEIs, such as interaction with faculty and peers, campus life, and other networking opportunities. That may be true at prestigious colleges and universities. However, HEIs or community colleges have not provided enough such interaction and social networking opportunities to their students. Therefore, the enrollment decline at community colleges will be inevitable in the future.

Moreover, as more students seek a quality online learning experience, new entrants with advanced technological solutions using Artificial Intelligence (AI) and Deep Machine Learning (DML) jeopardize the existence of those struggling HEIs in the post pandemic world.

Research Methodology

We present a case study of the Department of Computer Information Systems (CIS) at Medgar Evers College (MEC) and how it managed the challenges of abrupt COVID-19 pandemic lockdown to maintain academic continuity by establishing and executing the Emergency Academic Contingency Processes (EACP). The critical component of EACP was converting face-to-face learning to online learning within a week and constantly monitoring the effectiveness of online instruction weekly. It considered, specified, and monitored every possible risk that could arise from the abrupt conversion, such as students,

faculty, and staff being unaware of what they needed to do, having to learn new things at lightning speed, and feeling a sense of despair.

Secondly, we examine the impact of the pandemic lockdown on enrollments at the university level, college level, program level, and course level by comparing the enrollment data between pre-pandemic lockdown and during the pandemic lockdown. We compare findings with the final enrollment data reported by the National Student Clearinghouse Research Center to measure the level of impact on the enrollment at MEC.

Thirdly, we examine the effectiveness of the online instruction during the pandemic lockdown by comparing the grade distributions of two School of Business (SOB) representative CIS courses from Fall 2019 (pre-pandemic lockdown) to Fall 2020 (during pandemic lockdown). In specific, we want to study any sign of grade inflation or jump in withdrawal. The grade inflation during the pandemic lockdown seems to be inevitable since most instructors were lenient in grading as students were struggling in the pandemic crisis including unemployment, extra caregiving, overwhelming hospital jobs, poor internet access, etc. However, any increasing trend of withdrawal from courses might indicate that students were not satisfied with the instruction or overwhelmed to follow the online instruction.

Finally, we examine the pandemic lockdown's impact on student's preference of instructional modality by comparing pre-registration data of face-to-face classes versus online classes for the Fall 2021 semester when the campus reopens from pandemic lockdown. A student's strong preference for registering for online classes over face-to-face classes might prove our suspicions that the forced online instruction due to the lengthy pandemic lockdown has changed students' behavior for their higher education.

Emergency Academic Continuity Processes (EACP)

On January 28, 2020, CUNY's Chancellor, Rodriguez, sent out his first communication message to all CUNY stakeholders about the seriousness of the developing COVID-19 crisis (CUNY, 2020). After two coronavirus cases in the New York City area have been confirmed, he mandated all CUNY Spring 2020 classes to be converted to distance education on March 11, 2020. With the directions from the CUNY Central Office and Office of Academic Affairs at MEC, the School of Business led by its dean discussed various strategies to maintain academic continuity during the lockdown.

As a result of that meeting, CIS established the Emergency Academic Continuity Processes (EACP) to maintain academic continuity during the unprecedented pandemic lockdown. The challenges with establishing and executing EACP were how to quickly respond to the unknown risks that could arise during the unprecedented pandemic lockdown. Note that disasters and unexpected events do happen. Any mission-critical organization has a disaster recovery plan and a risk management plan to cope with them, assuming that the affected area is limited, and the recovery time could be estimated. On the contrary, the abrupt pandemic lockdown affected broad regions, including entire New York City and New York State, and no one knew how long it would last. Consequently, EACP needed to be agile and flexible enough to respond to unknown risks promptly. The essential components of the EACP are shown in Figure 1. The description of each component follows.

Define and Establish EACP

The goals and objectives:

- Make sure that the sudden change of modality would not confuse faculty or students.
- Focus efforts on ensuring teaching continuity, guaranteeing equity, monitoring effectiveness, and efficient support.
- Design pedagogical measures to evaluate training and generate mechanisms to support learning for disadvantaged students.
- Provide students and faculty the guidance and training for online learning platforms and solutions.
- Establish clear communication channel and designate a point person for the department.
- Document the pedagogical changes introduced and their impacts weekly.
- Learn from mistakes and plan responses as quickly as possible.

- Identify possible risk scenarios and plan contingency (i.e., death of faculty and students, unexpected disruption due to stress and anxiety, etc.).
- Monitor, control, assess, and evaluate risks each week.
- Promote internal reflection on the renewal of the teaching and learning model.

Assuring Online Delivery Platform and Faculty Readiness

We chose Blackboard as the main instruction delivery platform since most faculty and students were already familiar with it. For those classes needed to be broadcasted real-time, we provided licensed online conference solutions, including Blackboard Ultra, Cisco WebEx, Zoom, Google Hangout, Skype, FaceTime, and echo360. We allowed faculty to use other solutions if students agreed to use them. CUNY implemented a week of an instructional recess from March 12, 2020, to March 18, 2020, to prepare faculty, students, and staff to operate in full distance education mode. During this period, we required all faculty to participate in Blackboard training and be certified.

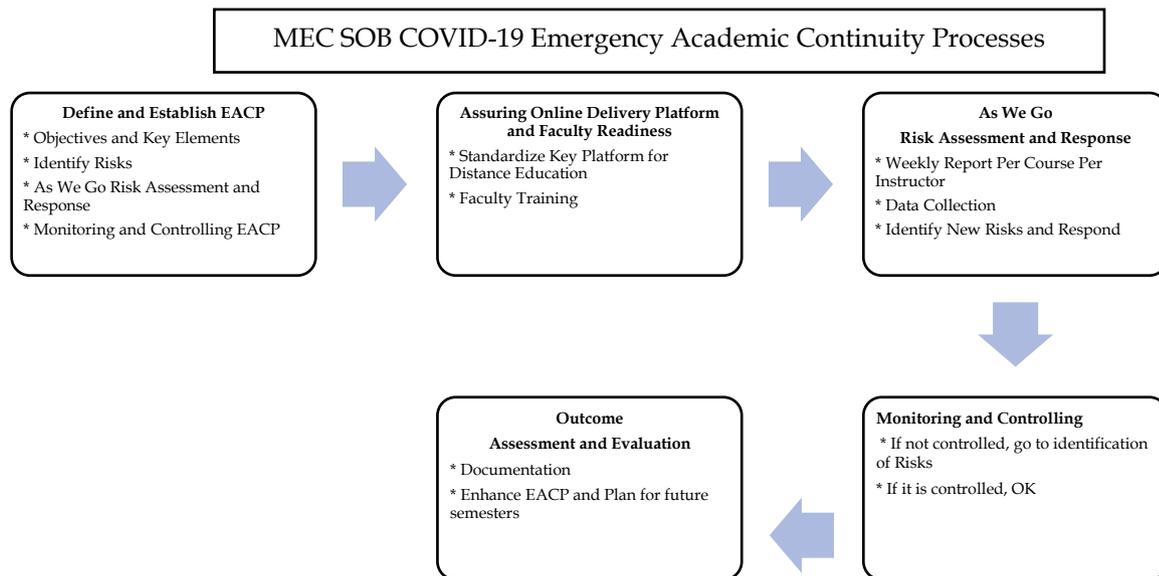


Figure 1. Medgar Evers College School of Business Emergency Academic Continuity Plan Processes

As We Go Risk Assessment and Response

We designed and distributed a simple but effective weekly assessment report template to all instructors. The objective was to remind each instructor to assess each week's class and plan next week's lesson. We required them to submit a brief weekly report to the departmental designated person by the end of each week throughout the semester. The departmental designated person compiled the report weekly and submitted it to the Department Chair for review and evaluation (Appendix 1). The Department Chair discussed any issues found with the faculty to mitigate them as quickly as possible.

One immediate problem we found was matters of equity and access. Some students did not have computers or internet access to access online instructions. Motivated by these concerns, CUNY decided to institute a recalibration period from March 27, 2020, to April 1, 2020. During this period, all scheduled courses were canceled, and we provided students with access to the equipment they needed to complete their semester requirements. It also afforded faculty time to consider best practices emerging across the virtual classrooms for example, the asynchronous online instruction. Those lost time due to the instructional recess and the recalibration time were made up by shorting the Spring Recess.

Monitoring and Controlling

Department Chair constantly monitored the progress of the online instruction delivery. For any issues found, Department Chair worked with the faculty to resolve them as quickly as possible. Also, SOB

hosted periodic workshops for faculty and students to share best practices of online learning. Moreover, SOB provided students with the sources of available financial assistance and free food supplies.

Outcome Assessment and Evaluation

We required all classes to be evaluated according to the course evaluation template designed and distributed by the Office of Academic Affairs. A post-evaluation conference with each faculty was conducted to give feedback and comments for possible enhancements. Any findings refined the EACP to plan future semesters until the pandemic crisis is over.

Findings and Results

Owing to the full support from the CUNY Central Office and Office of Academic Affairs, and most importantly, willing faculty and students, we completed the unprecedentedly challenging Spring 2020 semester successfully. The EACP worked to maintain academic continuity and was found to be effective in the lockdown environment. However, the pandemic semester, Spring 2020, did not finish without dents. MEC SOB lost two professors, and few students died of COVID-19.

A little over a year passed since the COVID-19 lockdown was declared. We learned a lot about our faculty, students and how to deliver courses online. We present some of the findings and outcomes by comparing pre-COVID-19 lockdown data (Fall 2019-Spring 2020) with the COVID-19 lockdown data (Spring 2020-Spring 2021).

Enrollment

The CUNY-wide enrollment data between pre-pandemic lockdown (Spring 2020) and pandemic lockdown (Spring 2021) are compared among its 25 campuses, as shown in Figure 2.

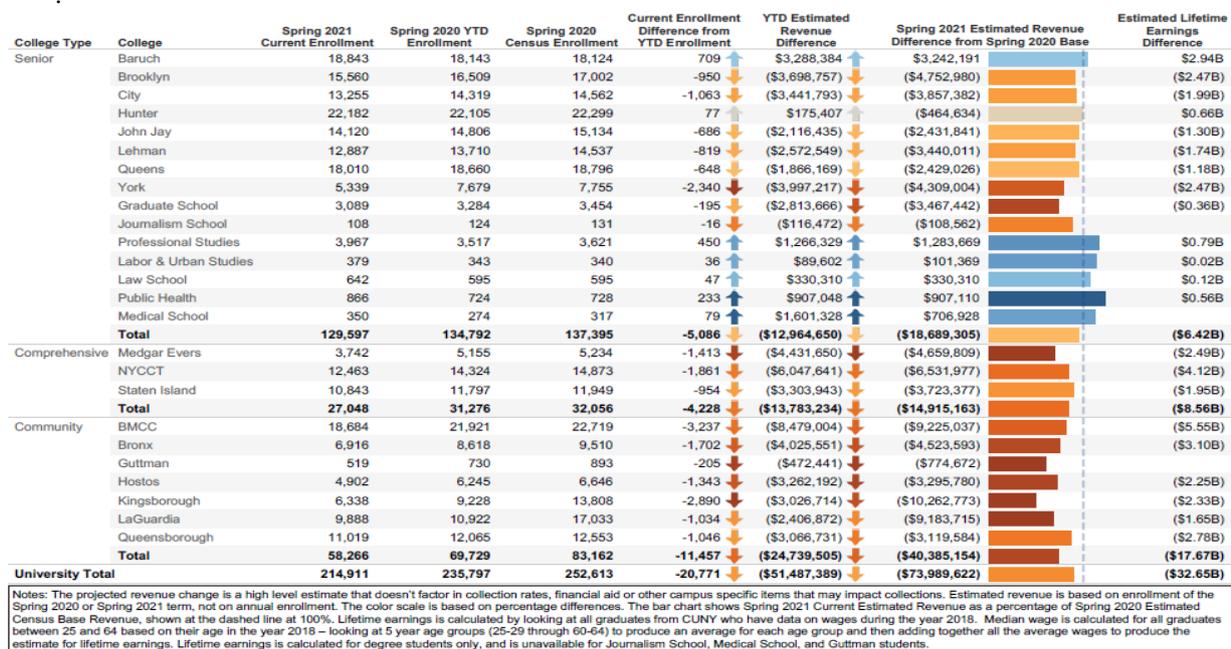


Figure 2. CUNY Enrollment Data: Pre-COVID-19 Lockdown (Spring 2020) Vs. During COVID-19 Lockdown (Spring 2021)

Except for the professional schools and two senior colleges – Baruch College and Hunter College located in the affluent areas of New York City, the enrollment after the COVID-19 lockdown declined over 8.8% across the campuses. As the NSCRC reported, the effect of the COVID-19 pandemic lockdown on those campuses with the largest share of students of color and students from low-income backgrounds was severe. For example, York College, located in Jamaica in Queens County of New York City, had a 30.5% decline, and Medgar Evers College, located in Central Brooklyn in New York City, had a 27.4% decline. The enrollment among seven CUNY Community Colleges also declined by over 16.4% on average.

The financial impact on MEC due to the sharp decline in enrollment is substantial. The 27.4% decline in enrollment implies an estimated \$4.4 million revenue loss compared to the revenue generated in Spring 2020, pre-COVID-19. That translates to a whopping \$2.5 billion revenue loss estimated over a lifetime. Unless MEC finds a way to revert the enrollment decline trend soon, it will be highly challenging for MEC to stay open in the future.

To identify the program-level enrollment trend, we examine CIS data that are representative of SOB. We compare the pre-pandemic lockdown enrollments with the pandemic lockdown enrollment in Fall 2020. As shown in Figure 3, the CIS enrollment in Fall 2020 declined 17.6% for its Bachelor of Science Degree program and 25.6% for the Associate Degree program, respectively. The more significant decline in the Associate Degree program proves that those poor students might have been affected more severely by the pandemic lockdown, resulting in not enrolling in Fall 2020.

We examine the course enrollment data of CIS 101 - Computer Fundamentals and CIS 211 - Internet Emerging Technology for the course level enrollment trend. All SOB students are required to take them during their freshman year and Sophomore year, respectively. Consequently, they serve as a good indicator of identifying the new SOB student enrollment trend (Freshman taking CIS 101) and the continuing SOB student enrollment trend (Sophomore taking CIS 211) in pandemic lockdown.

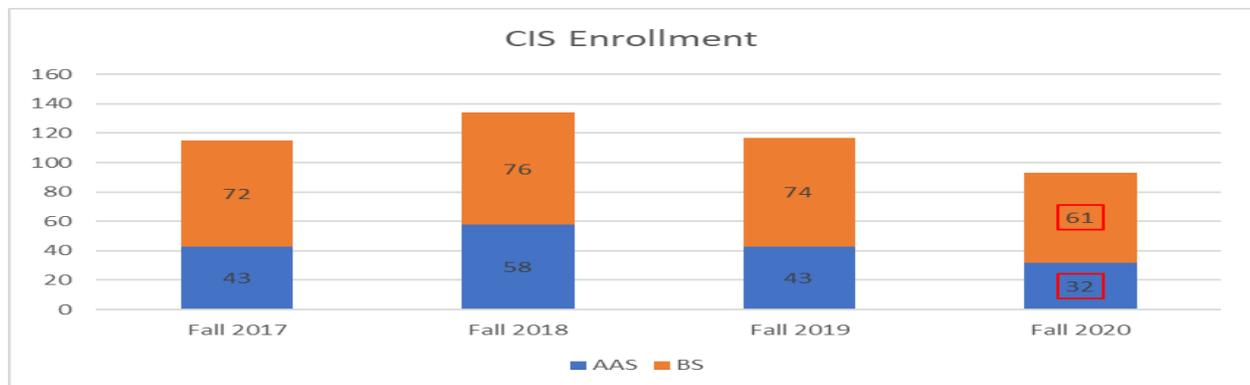


Figure 3. CIS enrollment: pre-COVID-19 Lockdown (Fall 2017~Fall 2019) Vs. During COVID-19 Lockdown (Fall 2020). AAS-Associate Degree Program; BS-Bachelor Program

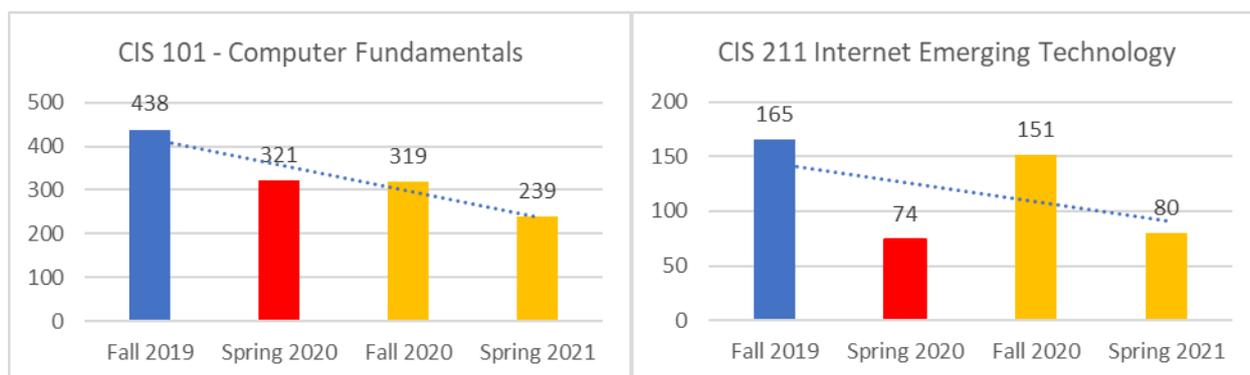


Figure 4. Freshmen and Sophomore CIS class enrollments: pre-COVID-19 Lockdown (Fall 2019 & Spring 2020) Vs. During COVID-19 Lockdown (Fall 2020 & Spring 2021)

As shown in Figure 4, the CIS 101 enrollment was substantially declined over 25% during the pandemic lockdown compared to the pre-pandemic lockdown. This indicates that not many new students enrolled in pandemic lockdown. Contrary to CIS 101 enrollment decline, it is interesting to see that the CIS 211 enrollment almost stayed constant, indicating that those students enrolled at SOB before the pandemic lockdown stayed and continuously enrolled in classes during the pandemic lockdown.

One of the concerns raised during EACP was the effectiveness of online instruction that took overnight due to the abrupt pandemic lockdown. For this study, we examine the grade distributions of the above classes for three semesters from Fall 2019 (pre lockdown) to Fall 2020 (during lockdown) to spot

any grade inflation or jump in withdrawal rate from classes. Some instructors use grade inflation to retain students in the class. On the contrary, students tend to withdraw from the classes if they believe they would not receive the expected grade for the course. Consequently, the correlation between grade inflation and the withdrawal rate should be low.

We found temporal grade inflation in CIS 101 (Freshman class) in Spring 2020, the first semester affected by pandemic lockdown, and then it stabilized in Fall 2020, as shown in Figure 5. The rate of those students who got a grade lower than “B” dropped most likely due to the change in the college’s grade policy offering students CRedit with passing (CR) and No Credit (NC) options. This seems to align well with our prediction that the grade inflation retained Freshman as the enrollment for CIS 211 (Sophomore class) did not decline much in Fall 2020 as described previously. On the contrary, we did not find any grade inflation from CIS 211 grade distribution, as shown in Figure 5. The rate of higher grades was lower compared to the pre-pandemic lockdown semester, Fall 2019. However, there was a substantial jump in the withdrawal rate in Spring 2020, and the withdrawal rate in Fall 2020 was still higher than the pre-pandemic lockdown semester. Perhaps, the higher withdrawal rate was due to the ineffective online instruction. However, further study is needed.

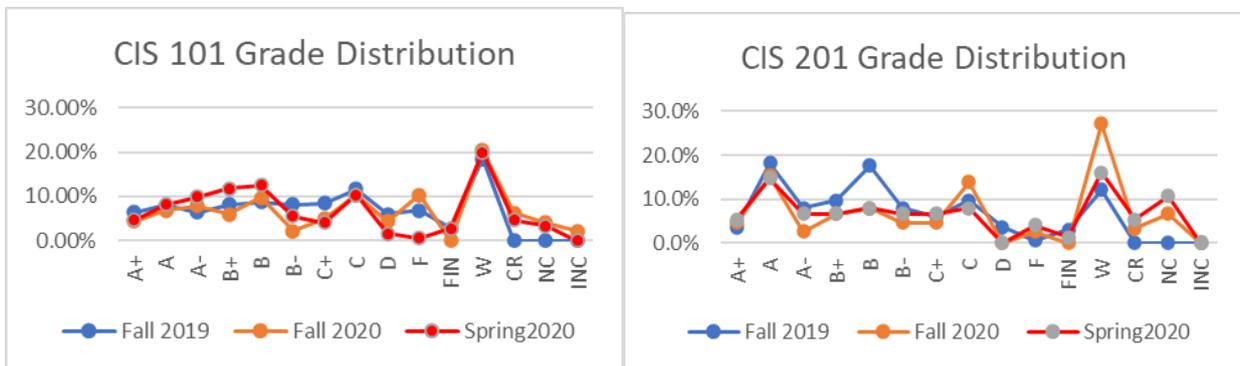


Figure 5. Grade Distribution Examples: Pre-COVID-19 Lockdown (Fall 2019) Vs. During COVID-19 Lockdown (Spring 2020 & Fall 2020). Note the following unusual terms used at MEC: FIN-financial hold; W-withdrawal; CR-pass with credit; NC-no pass; INC-incomplete.

With the rapid vaccination, NY Governor Cuomo declared going back to normalcy and to reopen campus in Fall 2021. We observed the student's tendency to come back to face-to-face learning after two semesters of asynchronous online studies. Following the directions given by the CUNY central, CIS offered 67% of Fall 2021 classes in face-to-face learning and the rest 33% of classes online classes. At the end of the Spring 2021 semester, we collected and examined the preregistration data, as shown in Figure 6. Interestingly, students heavily favored online classes over face-to-face classes. The online sections offered were already fully registered or close to full registration, whereas the preregistration for face-to-face sections did not reach 30% of the class capacity. This implies that students' learning habit changes are real, and this trend might continue even in the post-pandemic.

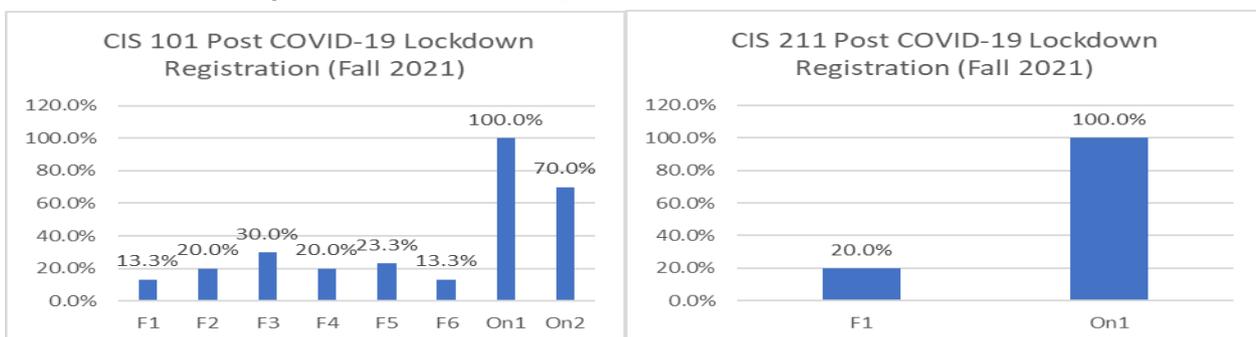


Figure 6. Post COVID-19 Lockdown Course Registration Examples (Fall 2021): Face-to-Face Class Vs. Online Class

Discussions and Conclusions

MEC CIS maintained academic continuity during the COVID-19 pandemic lockdown by establishing and implementing EACP that included the abrupt conversion from face-to-face learning to online learning. The EACP is agile and flexible enough to continuously enhance academic continuity with the minimum impact of unknown risks arising from the lengthy lockdown caused by the pandemic crisis. However, it is worth mentioning that EACP was found to be effective because CUNY already had the online learning infrastructure in place before the pandemic lockdown. If any HEIs did not have the online learning infrastructure before the pandemic lockdown, it would have been challenging for them to maintain academic continuity. Consequently, technology will play a more critical role in higher education in the future. It is also worth mentioning that many students accessed online lessons via their smartphones during the pandemic lockdown – many new entrants see this as an opportunity to tap into the higher education market with smartphone apps in the future.

We found that the enrollment decline reported by the National Student Clearinghouse Research Center was real and affected those HEIs serving students of color and low-income backgrounds substantially, including MEC. However, it is unclear what really caused the decline in enrollment – was it due to the extra-economic hardship experienced by those students already in low-income backgrounds, or was it due to the government pandemic stimulus packages that offered affluent unemployment benefits to non-student workers? That would be interesting future research.

It is too early to assume that the resumption of face-to-face activities of HEIs would stop the enrollment downtrend. Based on our findings from the study of the enrollment of new students and continuing students for the required freshmen course, CIS 101, and the sophomore course CIS 211, there was a substantial decline in new student enrollment. That would affect the entire future course offerings due to the lack of students to run the courses without affecting the HEI's financial sustainability. Any additional financial challenges will lead those financially struggling HEIs to definitive closures in an already full-blown economic recession.

Finally, we found changes in students' learning behavior with flexible and easy-to-follow technological solutions. For example, we observed students' preference for taking online classes over face-to-face classes even during the reopening semester. Such change in students' learning behavior might be seen as an opportunity to rethink and, to the extent possible, redesign the teaching and learning processes, and paying special attention to delivering online learning over the smartphone. Else, the beleaguered HEIs are at risk of surviving because there will be new for-profit entrants with superior educational technology solutions, taking full advantage of student's learning preferences that might change the entire landscape of the future higher education industry.

Appendix 1. Weekly Assessment Report Sample – Computer Information Systems, School of Business

DISTANCE LEARNING ACADEMIC PLAN: SPRING 2020/WEEKLY SUBMISSIONS/Week 3/15 - 3/21/2020

| COURSE # | Weekly Learning Objectives & Plan | INSTRUCTIONAL DELIVERY PLATFORMS | # Of students | Back up Delivery plan if using Blackboard | Weekly Assessment | INSTRUCTOR |
|--------------|--|--|---------------|--|--|---------------------|
| CIS 101.001 | <p>Learning Objectives 2 Understand Security, Privacy and System Care Discuss real life situations and apps that can be used for Privacy and Security. Demonstrate system care Quiz for reinforcement</p> | <p>Real-time video conferencing using Blackboard Collaborate Ultra (recording presentations) Blackboard class work assignments Blackboard homework assignments Blackboard exams All course materials are posted on Blackboard and on-line sessions follow the course syllabus.</p> | 14 | E-mail | <p>Students successfully used the collaborative tools for video, chat and audio, and are fully engaged in our e-books on CengageBrain as well.</p> | Instructor 1 |
| CIS 211.ENY1 | <p>Successful delivery of course contents over the online instructional delivery platform.</p> <p>Learning Objectives: Students will have a better understanding how to create a basic HTML webpage... Discuss the different websites graphics tools, typography, and color for Web development.</p> | Cisco Web Blackboard | 16 | Archive Method under Blackboard Management Package & utilities | <p>Read chapter 1, creating a Basic Webpage Page HTML-29 to HTML-35 Lab 1 Assignment: Creating a Webpage from a Template and using Placeholder Text Page HTML-43 to HTML-44. Follow instruction Step 1 to Step10 Save your HTML coding file to CH1_Lab.html Upload Ch1_Lab.html to blackboard Submission file can be found under Content tab link Ch1-lab1</p> | Instructor 2 |
| CIS 450.040 | <p>Successful delivery of course contents over the online instructional delivery platform.</p> <p>Learning Objectives and Activities: Understanding Gantt Chart and project</p> | Blackboard WebEx | 7/9 | Google Hangout Github E-mail | <p>Learning Activities: Demonstrated the WebEx and Blackboard as the online course delivery platform. Reviewed each student's</p> | Instructor 3 |

| | | | | | |
|--|---|--|--|---|--|
| | management. Presenting weekly research progress. Discuss next steps to successfully complete the project this semester. | | | progress with his/her research project. Reviewed submitted Gantt Charts and enhanced them to manage projects more effectively. Assigned Homework. | |
|--|---|--|--|---|--|

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Investigating the level of entrepreneurial orientation and desire for self-employment of students in selected tertiary institutions, North-East Nigeria

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Keywords

Entrepreneurial Orientation, Entrepreneurship Education, Students, Tertiary Institutions, Self-Employment.

Abstract

Entrepreneurial orientation resulting from entrepreneurship education in tertiary institutions has produced mixed findings in the developed context, especially in Northeast Nigeria, where the insurgency has been disrupting education over the years. This study investigated the level of entrepreneurial orientation (EO) of students in Yola, a region in Northeast Nigeria grappling with the onslaughts of the Boko Haram insurgency. This quantitative study examined the difference between the level of Entrepreneurial Orientations of Students before (BEO) and after taking entrepreneurship modules (AEO) while relying on primary data collected from three different categories of tertiary institutions in Nigeria (a polytechnic, a college, and a university) through a structured questionnaire. Relevant literature was reviewed to enrich the understanding of the researcher on different extents of the study. In the absence of a sample frame in the target population, a sample size of 270 students was selected based on the research eligibility criteria. Out of this sample, 191 respondents filled and returned the questionnaires.

Descriptive statistical analysis and Structural Equation Modelling (SEM) were used to analyze the data collected. The level of Entrepreneurial Orientation among students was measured to determine how students were innovative, proactive, risk-taking, and competitive aggressive before and after taking entrepreneurship modules. A significant difference between the level of EO before and after taking entrepreneurship modules, a meaningful relationship between the entrepreneurial orientation of students, and desire for self-employment after graduation was indicated. SEM results showed a significant positive impact of entrepreneurial orientation on students' willingness to self-employment after graduation. This research enriched the literature with a new understanding of entrepreneurial orientation. It provided modest empirical findings pertinent to policymakers interested in advancing Entrepreneurship Education (EE) in tertiary institutions.

Based on the findings regarding factors affecting the entrepreneurial orientation of students, the study recommends solutions for improving and developing an effective entrepreneurial orientation strategy in tertiary institutions.

Acknowledgement

We acknowledge Prof. Lukman Raimi for his insightful criticisms and consistent encouragement, which aided the completion of the writing of this paper.

Introduction

Entrepreneurship development has emerged as an influential agenda for the economic growth and development of a nation, increasing the number of entrepreneurs (Ferreira et al., 2016). Tertiary institutions play a crucial role in producing entrepreneurs, especially students who graduate with entrepreneurial mindset, capabilities, and attributes. A study found that entrepreneurship education is a vital factor for individuals in founding businesses, greater control of an individual's destiny, money-making, increasing individual satisfaction, and creating a legacy for families. The research at Tun Abdul Razak University found that students are strongly inclined to entrepreneurship (Popli and Rao, 2010). The research conducted at a local youth skill development institute shows a strong relationship between

course modules and the entrepreneurial orientation of students (Sangmyung Lee, 2015). Students' attitudes towards goals mediate the relationship between entrepreneurship education through the university environment, university roles and entrepreneurial intentions, and entrepreneurial orientation. Thus, tertiary institutions should make extra efforts to make teaching methodologies and the curricula more interesting, creative, and innovative to reduce any adverse effects (Rengiah, 2016).

However, the entrepreneurial culture still needs to be strengthened, as the tertiary institutions' graduates are still seeking to be employed rather than starting their businesses. In developing countries, tertiary institutions are continuously facing challenges such as the lack of financial and mentoring capacities and lack of engagement of students from non-business disciplines. In today's fast-changing, intense, and dynamic business environment, the entrepreneurial orientation's importance manifests fast diffusion all over the strategic literature. A substantial number of strategic research have aligned on the importance of entrepreneurial behavior and top management in determining organizations' performance (Lumpkin and Dess, 1996). However, there has been a scarcity of research scrutinizing how the implementation of entrepreneurial orientation in tertiary institutions has enhanced innovation, creativity, and increased job creation and performance of firms due to the change in the level of EO, which leads to the sustainable development of the country. Purwana, Suhud, and Wibowo (2018) proposed that young entrepreneurs need to be empowered to steer an ever-altering economy successfully.

In Nigeria, the federal government directed that Entrepreneurship Education (EE) be offered in tertiary institutions. This directive was introduced to create a positive entrepreneurial mindset and develop the ability of students to identify, evaluate and generate ideas for uniquely solving business-related problems, towards enhancing job-creating mentality instead of the job-seeking mentality (Mansor and Othman, 2011; Popli and Rao, 2010). In 2006, presidential directives to introduce entrepreneurship education into curricula from the 2007/2008 academic session of Nigerian tertiary institutions were given to the National Universities Commissions (NUC), National Commission for Colleges of Education (NCCE), and National Board for Technical Education (NBTE) through the Federal Ministry of Education. Generally, this has influenced the entrepreneurial mindset, intention capacities, and competencies (Oshinowo and Raimi, 2016).

Furthermore, entrepreneurial orientation has been well researched in developed countries with several findings (Sijabat, 2018). However, in developing countries like Nigeria, research on entrepreneurial orientation is just emerging and still very few. In line with the federal government of Nigeria's directives to introduce entrepreneurship education (EE) in tertiary institutions since 2006, this research helps governments, especially developing nations and interested private sectors, understand and improve EO's level in tertiary institutions.

Tertiary institutions today are gaining a lot of attention across the globe due to their vital contribution to economic development. Developed countries have emphasized primary, secondary, and tertiary education while emerging countries, including Nigeria, neglect higher education; instead, primary and secondary education is prioritized. It has been argued that the number of tertiary institutions does not reflect the quality of education in developing countries, especially in Africa. However, the focus on the quality dimension of education is still emerging (Kimenyi, 2011). For this reason, it is critically important to investigate the impact of entrepreneurship education through the understanding of the change in the level of entrepreneurial orientation of students before and after taking entrepreneurship education. Therefore, this research helps the governments, interested private sectors, especially tertiary institutions' managers and owners, to understand and improve entrepreneurial orientation. The keys to measuring the level of EO and its impact on students' desire for self-employment after their graduation are; innovativeness, risk-taking, proactiveness, and competitive aggressiveness are. Thus, the research problem this study intended to investigate stated in a broad question is: "To what extent has the goal of incubating entrepreneurial orientation of students been achieved, how it can be improved, what is its impact on students' desire for self-employment, and what are the factors affecting entrepreneurial orientation in Nigeria?"

Literature review

Entrepreneurial orientation

Entrepreneurial Orientation was operationalized as proactiveness, risk-taking, innovativeness, and competitiveness aggressiveness (Rank and Strenge, 2018). Kirzner's concept of entrepreneurship states that an entrepreneur is riding pressure to meet the dynamic needs and wants of the market. The competitive behavior of entrepreneurs is operational in restoring the equilibrium of the market. Therefore, an entrepreneur is exceptionally progressive in introducing new enterprising ideas that can change markets' character. Entrepreneurial orientation has been seen as an idea that has to be studied on several levels. EO is searching for new commercial possibilities such as approaches, practices, and activities on the business level. The behavior of the company and entrepreneur is probable to comply with the identical orientation in entrepreneur-led corporations ((Weber et al., 2014). Single entrepreneurial orientation does not deal with some crucial alternatives that can ignore an entrepreneur's essential attitudes, such as the leading approaches of introduction cost, risk-taking, and the nature of cooperation. Single entrepreneurial orientation has been further evolved using several entrepreneurial orientations; imitative entrepreneurship, progressive entrepreneurship, and co-innovative entrepreneurship (Koe, 2015). In the context of entrepreneurship, schooling, and self-development, the conscious or subconscious choice between specific entrepreneurial activities influences personal growth and capabilities. Therefore, the individual progressive orientation is a good foundation for entrepreneurial ventures in business surroundings, where innovative differentiation is the primary prerequisite for development and maintaining nearby or international competitive advantage (Arzubiaga et al., 2019). A vital feature of an innovator's competence is to apprehend the market by commercializing their progressive ideas. Innovativeness is supported by new product and era development or innovative approaches to re-define enterprise boundaries and uniquely combine present enterprise ideas. Martins et al. (2015) explained business opportunities of value innovations as the focus on new markets and new methods discovered through competition stacked in the fierce opposition of the "red oceans." In the previous studies of entrepreneurship and strategic management, positive elements were mixed to create a brand-new concept of strategic entrepreneurship (Kauranen and Kraus, 2011) and identify the linkages between entrepreneurship and strategic direction.

The Entrepreneurial Strategic Posture (ESP), a unidimensional construct of EO, was first conceptualized by (De Clercq et al., 2014), with three dimensions: proactiveness, risk-taking innovativeness. They were discovered particularly in small businesses as the keys to their performance in challenging business environments (Agyei and Marfo-Yiadom, 2011). Later on, the new measurement scale of EO was developed with two dimensions, autonomy and competitive aggressiveness (Rahman, Civelek, and Kozubikova, 2016). They promulgated the EO's new scale as a multidimensional construct, and they suggested that dimensions be examined independently as independent variables.

Entrepreneurial orientation and entrepreneurship education

Over time, researchers investigated entrepreneurial orientation, attitude, and mindset across industries which provides experimental proofs (Ngan, 2020). In the investigation of Feșteu and Turlakova (2020), they found that students who are provided with an organized and enriched entrepreneurship program and curriculum exhibited a high level of entrepreneurial orientation. Ibidunni et al. (2020) investigated the entrepreneurship orientation in Turkish institutions, and the respondents were found to have entrepreneurial qualities such as locus of control, hazard propensity, inventiveness, and self-confidence. Also, they found a solid entrepreneurial slant implication that entrepreneurship training is still needed to impact students' attitudes. Similarly, Fems (2020) investigated entrepreneurial intentions in Nigerian tertiary institutions using structural comparison demonstration. It was found that students have a different level of entrepreneurial purposes based on their differences in school modules and teaching mode. Udayanan (2019) demonstrated the vitality of school administration as a reflection of the quality of education offered by schools. He, therefore, considered entrepreneurship training as a crucial way to instill an entrepreneurial mindset. It was found that business school students have a high level of entrepreneurial orientation. They are more capable and receptive to the needs of the industry and the flow of the business (Ekpoh and Edet, 2011). Contrary, the finding of Taatila on measuring the entrepreneurial orientation of university students demonstrated that entrepreneurial desire differs among students'

academic programs while the actual entrepreneurial orientation does not (Taatila and Down, 2012). Individuals desire to become entrepreneurs for different reasons. Despite the economic growth in general, greater control, greater satisfaction, more money, and the ability to leave a legacy for children and family are the main perceptions regarding the potential benefits of becoming an entrepreneur (Belenzon, 2019).

A high level of entrepreneurial orientation cannot be achieved without taking any strategic plan to support the governmental directives given to tertiary institutions. Treating IEO as a holistic construct, it was discovered that male undergraduate business students from the U.S., Hong Kong, India, and Turkey scored better IEO than their female counterparts (Colombo et al., 2015). Unlike the previous study of IEO of college students (Koe, 2015), they showed higher risk-taking, innovation, proactiveness, and entrepreneurial rationale after completing an entrepreneurship route. Students of tertiary institutions rated risk-taking the lowest. The authors argued that risk-taking became a problem indeed for a few capability entrepreneurs. It was found in the Finnish university that students with entrepreneurial experience scored better for all elements of EO than non-entrepreneurial experienced students. Also, they diagnosed that male student had been greater risk-taking and proactiveness than women, and college students with working experience had been greater progressive and seasoned-active than college students without working experience.

Oshinowo and Raimi (2016) found that entrepreneurship education has a significant influence on student's entrepreneurial intention, entrepreneurial mindset, entrepreneurial capacities, and competencies, which are the critical factors for EO. They concluded by saying that there is a need for capacity building for lecturers, policymakers to focus on critical areas such as funding, industry collaboration, improved curriculum development, and quality assurance that integrates entrepreneurship education with the country's needs (Lindberg et al., 2017). Curriculum development is the precondition for further development of the students' creative and innovative thinking and entrepreneurial orientation. According to them, creative training must be imbibed by institutions. With creativity, individuals can view problems from different perspectives (Raimi and Sofoluwe, 2013). Thus, the integration of entrepreneurship in education systems must be intensified by institutions to increase their productivity. Based on the stated previous findings, the following null hypothesis was tested: *H₀₁: There is no significant difference between the level of Entrepreneurial orientations of students before (BEO) and after taking entrepreneurship modules.*

Entrepreneurial orientation and self-employment

Different internal and external factors such as encouraging legal provisions for start-up businesses, security issues, encouraging government policies, financial resources, and the country's economy were found to affect the entrepreneurial orientation of students while in institutions or after their graduation. It was found that governance and infrastructural deficits negatively affect all the efforts of Entrepreneurship Development Centres (EDCs) in learning, teaching, mentoring, and business plan development (Raimi and Ajiboshin, 2018). The research carried out at the Umeå School of Business and Economics Sweden on enhancing entrepreneurship's mindset indicated a significant positive enhancement of the students' Opportunity Recognition (OR) and Individual Entrepreneurship Orientation (IEO). An intervention personalized to enhance students' EO capabilities can positively affect their mindsets (Lindberg et al., 2017). Bolton and Lane's (2012) findings show reliability and validity of innovativeness, proactiveness, and risk-taking. Also, these factors are statistically correlated with entrepreneurial intention. Being a risk lover and having the willingness to take a risk positively affects entrepreneurial intentions while living risk-free negatively affects the growth rate of entrepreneurial orientation (Cho and Lee, 2020), which confirmed the importance of entrepreneurship education. It was suggested that tertiary institutions should carefully design the entrepreneurship education curriculum to enhance students' entrepreneurial orientation and increase entrepreneurial intention (Koe, 2016).

Hisrich said that entrepreneurship is a planned and intentional behavior, and its importance to national development is undeniable (Grichnik and Hisrich, n.d). It is, therefore, understandable that entrepreneurship knowledge is essential in developing a sustainable and significant number of entrepreneurs for the nation (Mellor, 2008). Regardless of the growing trend, all college students are not oriented entrepreneurially, nor should they necessarily expect them to be. However, some display a high level of interest in new venture creation (Boldureanu et al., 2020).

The collected information from teenagers studying entrepreneurship expressed a consistent desire for self-employment (Srivastava and Thomas, 2017). The meta-analysis of achievement motivation and entrepreneurship among forty-one students showed that individuals who pursued entrepreneurial careers scored significantly higher on achievement motivation than individuals who sought other types of employment (Efi, 2014).

Graduates' unemployment has been the primary reason for many social problems such as fraud, armed robbery, and so forth (Hajimichael, 2016). The inadequate curricula that do not meet today's world market have also been pinpointed to be responsible for graduates' unemployment (Jun 2017). Non-motivational factors such as availability of opportunities and resources, time, and capabilities also affect an entrepreneurial orientation, leading to the increase of graduates' unemployment. Therefore, entrepreneurial orientation may be considered a crucial ability that individuals acquire through learning. It is essential to look at students' entrepreneurial orientation to enhance self-employment (Ekpoh and Edet, 2011). Entrepreneurial activities positively impact the world economy (Lindberg et al., 2017), and self-employment has become every person's dream. Raimi and Sofoluwe (2013) discovered that entrepreneurship development could be an effective tool for stimulating employment poverty reduction and the fast-tracking realization of universal primary education. Based on the previous findings, this study hypothesizes that:

H₀₂: There is no significant impact of entrepreneurial orientation of students and desire for self-employment after graduation in North-East, Nigeria.

H_{02a}: There is no impact of entrepreneurial orientation of students (before taking entrepreneurship modules) and desire for self-employment after graduation in North-East, Nigeria.

H_{02b}: There is no impact of entrepreneurial orientation of students (after taking entrepreneurship modules) and desire for self-employment after graduation in North-East, Nigeria.

Research Methods

This quantitative research employed the descriptive research approach to generate objectives. The target population of the 3 categories of tertiary institutions (such as a polytechnic, a university, and a college), a sample size of 270 registered students who were taught entrepreneurship modules was selected using a convenient sampling technique. After that, questionnaires were self-administered to respondents physically. A total of 191 responses with 67, 64, and 60 responses from the American University of Nigeria, State Polytechnic Yola, and Federal College of Education Yola were obtained. Researchers use this technique to select respondents to be sampled based on their knowledge and professional judgment (Creswell, 2012). The Statistical analysis software SPSS V20 was used to manage, reduce and simplify data, select and analyze the collected data to meet the research objectives. The research instrument with three (3) sections: the section of EO scale, the section of factors affecting EO, and the section of identifiers were scrutinized, vetted, and content-validated by the academic professional. To ensure the reliability of the research instrument, Cronbach Alpha was used to measure the reliability of the 49 items of the instrument. After the test, the result indicated the coefficient of 0.67, which falls into the acceptance criteria that ranges between 0.65 and 0.8. The structural equation modeling was also used to understand the impact of entrepreneurial orientation (innovativeness, proactiveness, risk-taking, and competitiveness aggressiveness) on a desire for self-employment after graduation. To achieve in-depth responses, participants were given enough time to read, understand and fill the questionnaire. In terms of data handling and analysis, human error is poorly involved in statistical software analysis. The shallowness low risk for the misinterpretation of results, thereby generating accurate and reliable conclusions.

Findings and discussion

Results and discussions 4.0. Descriptive Results

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------------|-----------|---------|---------------|--------------------|
| No Extent at all | 3 | 1.6 | 1.6 | 1.6 |
| Very Low Extent | 11 | 5.8 | 5.8 | 7.3 |
| Low Extent | 61 | 31.9 | 31.9 | 39.3 |
| Average Extent | 107 | 56.0 | 56.0 | 95.3 |
| High Extent | 9 | 4.7 | 4.7 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Table 1: Desire to be self-employed after graduation; Before taking entrepreneurship modules.

Table 1 indicates 9 respondents corresponding to 4.7% desire to be self-employed after graduation to a high extent; 107 respondents corresponding to 56% desire to be self-employed after graduation to an average extent; 61 respondents corresponding to 31.9% desire to be self-employed after graduation to a low extent; 11 respondents corresponding to 5.8% desire to be self-employed after graduation to a very low extent and 3 respondents corresponding to 1.6% do not desire to be self-employed after graduation.

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------------|-----------|---------|---------------|--------------------|
| Average Extent | 54 | 28.3 | 28.3 | 28.3 |
| High Extent | 63 | 33.0 | 33.0 | 61.3 |
| Very High Extent | 74 | 38.7 | 38.7 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Table 2: Desire to be self-employed after graduation; After Taking Entrepreneurship Modules.

Table 2 indicates respondents corresponding to 38.7% desire to be self-employed after graduation to a very great extent; 63 respondents corresponding to 33% desire to be self-employed after graduation to a great extent; 54 respondents corresponding to 28.3% desire to be self-employed after graduation to an average extent. The finding shows a significant improvement in the desire for self-employment of students as a result of the implementation of entrepreneurship modules in tertiary institutions. Table 1 shows that 39.3% of students were at a low extent and below before taking entrepreneurship modules (BEM), but all respondents (100%) were at the average extent and above after taking entrepreneurship modules (AEM).

Results of ANOVA test

| | | Sum of Squares | df | Mean Square | F | Sig. | |
|---------------|----------------|--------------------------|---------|-------------|---------|-------|-------|
| BEO AEO | Between Groups | Linearity | 476.113 | 1 | 476.113 | 9.273 | 0.003 |
| | | Deviation from Linearity | 1007.73 | 26 | 38.759 | 0.755 | 0.798 |
| Within Groups | | 8317.64 | 162 | 51.343 | | | |
| Total | | 9801.47 | 189 | | | | |

Table 3: ANOVA Result (Hypothesis two testing)

From the table (3) ANOVA result, it is appropriate to conclude that the mean of before Entrepreneurial Orientation (BEO) and mean of after Entrepreneurial Orientation (AEO) is significantly different ($F_{189} = 9.273$, $p < 0.003$), and therefore, there is a significant difference between the level of Entrepreneurial orientations of students before (BEO) and after taking entrepreneurship modules (AEO).

Regression analysis

The ANOVA results also showed a good fit for the data. $F(1, 191) = 12.469$ and $p\text{-value}(0.00) < 0.05$ for Entrepreneurial Orientation (EO) and desire for self-employment before graduation and FP; $F(1, 191) = 29.981$ and $p\text{-value}(0.00) < 0.05$ for EO and desire for self-employment after graduation indicate that there have been EO practices activities before the implementation of entrepreneurship modules in tertiary institutions, and those activities including entrepreneurship modules had a significant positive influence on their desire.

Entrepreneurial orientation and desire for self-employment before taking entrepreneurship modules

From table 4, the unstandardized coefficient, B, for innovativeness, proactiveness, risk-taking, and competitiveness aggressiveness was equal to 0.021, 0.090, -0.054, and 0.033, respectively. This means that for each effort made by tertiary institutions to engage students in innovative, proactive, risk-taking, and aggressive competitive activities, there is an increase in students' desire for self-employment of 0.021, 0.090 and 0.033, and a decrease of 0.054. However, only proactiveness activities significantly impact their willingness to self-employment with a $p\text{-value} 0.000 > 0.05$, with an insignificant constant of 0.895. Respondents who are mostly managers indicated strong customer orientation in their organizations. The negative impact of risk-taking or the insignificant impact of the other entrepreneurial orientation measures may be due to the internal (such as lack of technical expertise, lack of qualified teachers of entrepreneurship, level of business activities in school, enriched entrepreneurship books in the school library, lack of reliable electricity, poor buyer behavior towards made-in-Nigeria products and higher learning institutions policies) or external factors (such as poor buyer behavior towards made-in-Nigeria, lack of reliable electricity, lack of financial resources, the poor state of the Nigerian economy, lack of encouraging government policy, lack of encouraging legal provisions for start-up businesses in Nigeria, level of corruption in Nigeria, level of insecurity in Nigeria, high cost of production, rapid rate of technological changes) affecting the development of students risk-taking abilities. Specifically, students' risk-taking ability was very critical. Based on this factor analysis of innovativeness, proactiveness, risk-taking, and competitiveness aggressiveness, the following is the regression equation:

$$DSE = 0.895 + 0.021I + 0.090P - 0.054R + 0.033A$$

Where, DSE = Desire for Self-Employment, I = Innovativeness, P = Proactiveness, R = Risk-taking and A = Competitiveness Aggressiveness.

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | .895 | .581 | | 1.542 | .125 |
| Innovativeness items BEM | .021 | .022 | .066 | .972 | .332 |
| Proactiveness items BEM | .090 | .016 | .466 | 5.534 | .000 |
| Risk-taking Items BEM | -.054 | .039 | -.118 | -1.362 | .175 |
| Competitiveness aggressiveness items BEM | .033 | .024 | .101 | 1.396 | .164 |

Table 4. Coefficients for dependent variable: desire for Self-employment BEM

Entrepreneurial orientation and desire for self-employment after taking entrepreneurship modules

From table 5, the unstandardized coefficient, B, for innovativeness, proactiveness, risk-taking, and competitiveness aggressiveness was equal to 0.094, 0.166, -0.052, and -0.022, respectively. This means that for each effort made by tertiary institutions to engage students in innovative, proactive, risk-taking, and aggressive competitive activities, there is an increase in students' desire for self-employment of 0.094 and 0.166 and decreased 0.052 and 0.022. Innovativeness and proactiveness factors significantly impacted the students' willingness to self-employment with a $p\text{-value} 0.000 > 0.05$. In contrast, Risk-taking and competitiveness aggressiveness factors have an insignificant negative impact on their desire. Based on this

factor analysis of innovativeness, proactiveness, risk-taking, and competitiveness aggressiveness, the following is the regression equation:

$$DSE = -2.475 + 0.094I + 0.166P - 0.052R - 0.022A$$

Where, DSE = Desire for Self-Employment, I = Innovativeness, P = Proactiveness, R = Risk-taking and A = Competitiveness Aggressiveness.

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| Constant | -2.475 | 1.094 | | -2.263 | .025 |
| Innovativeness items AEM | .094 | .026 | .215 | 3.601 | .000 |
| Proactiveness items AEM | .166 | .018 | .560 | 9.141 | .000 |
| Risk-taking Items AEM | -.052 | .029 | -.112 | -1.800 | .073 |
| Competitiveness aggressiveness items AEM | -.022 | .029 | -.045 | -.757 | .450 |

Table 5. Coefficients for Dependent Variable: Desire for Self-employment AEM

After implementing the entrepreneurship module, the overall level of entrepreneurial orientation has increased, and the entrepreneurial orientation activities either before or after the implementation were impacting the students' desire for self-performance after graduation. The risk-taking ability of students is still a critical issue, although the level of competitiveness aggressiveness of students seems not to decrease over time. This shows that the entrepreneurship education strategy in tertiary institutions in Nigeria is effective as expected. There is a need for more efforts in improving the level of entrepreneurial orientation of students, especially in the area of risk-taking and competitiveness aggressiveness. Some challenges are responsible for this less effectiveness of entrepreneurship education in tertiary institutions. The results from respondents show that both internal and external factors affect their entrepreneurial orientation. The lack of technical expertise, lack of qualified teachers of entrepreneurship, level of business activities in school, enriched entrepreneurship books in the school library, lack of reliable electricity, poor buyer behavior towards made-in-Nigeria products and higher learning institutions policies, poor buyer behavior towards made-in-Nigeria products, lack of reliable electricity, lack of financial resources, the poor state of the Nigerian economy, lack of encouraging government policy, lack of encouraging legal provisions for start-up businesses in Nigeria, level of corruption in Nigeria, level of insecurity in Nigeria, high cost of production and rapid rate of technological changes affect their EO (innovativeness, proactiveness, risk-taking and competitiveness aggressiveness) at a high and the same extent.

This result supports the finding of Boldureanu (2020), who found that tertiary institutions are continuously facing challenges such as the lack of interest in becoming entrepreneurs among university graduates because of the lack of financial support, mentoring, and the lack of engagement with non-business disciplines. According to Kristová and Malach (2017) on Entrepreneurship Education: Enabling teachers is a critical success factor, they recommended that educating staffs should be provided professional development. It was also found that governance and infrastructural deficits negatively affect all Entrepreneurship Development Centers (EDCs) efforts put in learning, teaching, mentoring, and business plan development (Ribeiro-Soriano and Mas-Verdú, 2015). The authors suggested that further research may investigate the level of entrepreneurial orientation based on gender differences and compare the level of entrepreneurial orientation between business students and non-business students.

Conclusions, Implications, and Limitations

The study concludes that the Entrepreneurial Orientation (EO) level has improved since the implementation of the entrepreneurship curriculum. As a result of that, the level of students' desire for self-employment was boosted. This means that they aspire more to own businesses after graduation instead of the government employment opportunities. However, the effectiveness of entrepreneurship education in tertiary institutions is not satisfactory, especially in risk-taking and competitiveness aggressiveness. Some external and internal factors are still affecting entrepreneurship education. By considering the vital role of entrepreneurial orientation in the development of a country, the study

redounds to the benefit of society. The greater demand for jobs creation justifies the need for more and effective entrepreneurs. The study findings may help government, private, and public tertiary institutions examine and improve entrepreneurship education and pedagogy. Besides, this research enriches the literature. It provides modest empirical findings and evidence on this crucial issue, particularly regarding the level of entrepreneurial orientation before and after entrepreneurship orientation and self-employment as studied from various tertiary institutions.

Given the preceding findings, the following recommendations are critical for improving the level of entrepreneurial orientation in tertiary institutions in Nigeria; When carrying out this research, the private university, namely, the American University of Nigeria, has business centers f. Every semester, students develop new business ideas, and the winners get funds from the university to implement them. Therefore, the universities should engage students with practical entrepreneurial activities in schools to develop an entrepreneurial mindset and enhance entrepreneurship knowledge. This action will highly prepare them for the business challenges after graduation. Tertiary institutions should put more effort into risk-taking and competitiveness aggressiveness activities. Universities should hire qualified teachers of entrepreneurship who have professional expertise in the career. They should also buy enriched entrepreneurship books in the school library to enhance the teaching and learning process. National Universities Commissions (NUC) should reinforce institutions to align entrepreneurship education curricula with real-world start-up challenges by providing students with technical expertise and required entrepreneurship materials. There is still a gender gap in education, especially in emerging economies; future researchers should focus on gender-based entrepreneurship education in tertiary institutions.

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A review of accounting developments in Africa

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Keywords

Accounting, Auditing, Africa, IFRS, Education

Abstract

Entities in the developing nations of Africa, just like other entities in the developed world need to demonstrate good stewardship in order to attract and retain investment. This means that African countries need a robust accounting infrastructure to deliver reliable and comparable financial information. This paper reviews the current status of accounting in Africa, by looking at the structure of the accounting profession, oversight of accounting entities, currency and monetary control, the status of adoption of International Financial Accounting Standards, the level of accounting research in Africa, and developments in accounting pedagogy at African institutions of higher education. This overview is intended to provide a baseline from which future researchers can develop further investigations into the accounting profession across the continent or a region of Africa.

Introduction

"I often say that when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science, whatever the matter may be." Lord Kelvin (Cournot 1847)

Accounting originates in the depths of history. Many Cuneiform Tablets from the Mesopotamian civilization, which were created 5,000 years ago, detail inventory and transfers of property. (The World's oldest Writing 2016). Luca Pacioli codified what we now know as double entry bookkeeping in his *Summa de arithmetica, geometria, proportioni et proportionalita* (Summary of arithmetic, geometry, proportions and proportionality) in 1494. (Cripps 1994). Modern accounting bodies originated with the founding of the Institute of Chartered Accountants of Scotland in 1854 (Chartered Accountants Worldwide 2020). In 1973 in response to developing global business needs the International Accounting Standards Committee (IASC), was formed. The change to the International Accounting Standards Board (IASB) in 2000 resulted in issuance of International Financial Reporting Standards (IFRS), which have become the de facto international accounting standard worldwide. (IFRS History 2020) IFRS is the required standard in 144 countries and is permitted in many more. (IFRS use around the world 2020)

The developing nations of Africa seek inbound investment, which is critical to developing their economies. Whether that investment comes from for-profit Foreign Direct Investment (FDI), from Governments or from Non-Governmental Agencies (NGO's), the investor requires accountability from the recipient organization. In this case accountability can be quantified through accounting standards which *"must be relevant and faithfully represent what it purports to represent. The usefulness of financial information is enhanced if it is comparable, verifiable, timely and understandable"* (IFRS Conceptual Framework 2020). Or, as Peter Drucker put it *"What gets measured gets managed"* (Prusak 2010).

Accounting in Africa

Globally accounting has developed along two distinct philosophies. In Africa, these philosophies reflect the prior colonial powers.

In Anglophone Africa accounting regulations have been developed by independent bodies, typically called Chartered Accountants. This developed from Common Law Countries where the objective was to provide transparency and information to shareholders who had no direct involvement with the running of the entity.

In Francophone Africa, accounting regulations were defined by legislation. This developed from Code Law countries where the investors such as banks had a more direct involvement with the entity and

the regulations were designed to define government requirements and tax calculations. Accountants in African Francophone countries are typically called Experts Comptables. (Doupnik 2019)

The Pan African Federation of Accountants, established May 2011, has 54 members in 43 countries and comprises 11,000 professionals. (PAFA). PAFA recognizes the capacity of Professional Accounting Organizations to “drive good financial management practices, accountability, transparency, and good governance across public and private entities.” (PAFA 2020)

In addition, PAFA supports the African Professionalization Initiative (API) (PAFA Newsletter 2020).

The API seeks to promote “enhanced accountability, transparency and good governance in the public sector” and result in “public funds being used efficiently and economically to improve the lives of citizens” (African Professionalization Initiative 2020). One of the first organizations of professional accountants in Africa was the Institute of Accountants and Auditors in the South African Republic, which was launched in 1894 with 65 members. (SIACA History 2020). The South African Institute of Chartered Accountants, a successor organization, was established in 1980. The Egyptian Society of Accountants and Auditors (ESAA) was established in 1946 (IFAC Egypt Accountants 2020). The Institute of Chartered Accountants of Nigeria (ICAN) was established in 1965 (IFAC Nigeria 2020)

The Ordre des Experts-Comptables du Royaume de Maroc (OEC-Morocco) was established in 1993. (IFAC Morocco 2020). Over 20 African Professional Accounting Organizations (PAO) are members of the International Federation of Accountants (IFAC), which is the global association of professional accounting organizations. Founded in 1977 it now has 175 members and associates in more than 135 countries and jurisdictions worldwide. Membership of IFAC requires adoption of International Standards and indicates to stakeholders a commitment to best practices and serving the public interest. (IFAC Membership 2020)

Who audits the auditors?

Accounting bodies have historically been self-regulating, establishing the requirements for qualification, ethical standards and determining the appropriate sanctions for those of their members who transgressed these standards. However, accounting scandals in the early 21st century, which included in the United States (Enron Scandal 2001), in Italy (Parmalat Scandal 2003), and in Ireland (Anglo Irish Bank Scandal 2008) led not only to changes in corporate law but the establishment of independent bodies to review the performance of auditors.

In the United States the Public Company Accounting Oversight Board was created in 2002 (Sarbanes-Oxley Act 2002). In 2006 the International Forum of Independent Audit Regulators (IFIAR) was formed, and it currently has members from 53 jurisdictions worldwide. (IFAIR 2020). Currently the only African countries that are members of IFAIR are Egypt, Botswana, Mauritius and South Africa.

However, in March of 2018, accounting oversight bodies and professional accounting organizations from Botswana, Ethiopia, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Tanzania, South Africa and Zambia joined the Public Accountants and Auditors Board (PAAB) of Zimbabwe in forming the African Forum of Independent Accounting and Auditing Regulators (AFIAAR). The goals are to achieve a common base for Accounting and Auditing standards, and, to work towards attaining IFIAR Standards.

“In the context of the development of our continent, this is a momentous initiative for Africa as it will be one of the keys to increasing investment in our economies, public protection and contributing to the development of the continent.” Admire Ndurunduru, Secretary PAAB. (Regulators meet to improve African auditing and accounting standards 2020)

Currency

The metric used in accounting is the currency of the respective country. Most African countries have their own currency supervised by a Central Bank. The role of a Central Bank in managing Monetary Policy has been defined as comprising the roles of: Inflation Targeting – many Central Banks have established an explicit target inflation rate; Money Supply – adjusting the supply of money through open market operations; Foreign Exchange – determining a desired FX regime and engaging in open market activities; and Macro-prudential Policy – use of bank supervision to minimize systemic risk (IMF Central Banking 2020)

Central Banks have existed for a long time - the Bank of England since 1694 (Bank of England 2020), Bank of Japan since 1882 (Bank of Japan 2020), Federal Reserve since 1913 (Federal Reserve Act of 1913) and the European Central Bank since 1998 (European Central Bank 2020).

In Africa, examples of Central Banks from some of the largest economies include.

South Africa

The South African Reserve Bank (SARB) was established in 1920 as a private company. *“The primary purpose of the Bank is to achieve and maintain price stability in the interest of balanced and sustainable economic growth in South Africa. Together with other institutions, it also plays a pivotal role in ensuring financial stability.”* (South African Reserve Bank 2020)

Nigeria

The Central Bank of Nigeria (CBN) was established in 1958. Its policy is stated as *“In order to facilitate the attainment of price stability and to support the economic policy of the Federal Government, there shall be a Committee of the Bank known as the Monetary Policy Committee”* (Central Bank of Nigeria 2020)

Egypt

The Central Bank of Egypt (CBE) was established as an autonomous regulatory body in 2003. The President of Egypt appoints the Governor. The main objectives of the CBE include realizing price stability and ensuring the soundness of the banking system, formulating and implementing the monetary, credit & banking policies, supervising the banking sector, managing the foreign currency international reserves of the country, and regulating the functioning of the foreign exchange market. (Central Bank of Egypt 2020)

Zimbabwe

Zimbabwe suffered a raging hyperinflation in 2008-09 when prices doubled every 24 hours. The country scrapped its own currency in 2009 and relied on the US Dollar, the South African Rand and other currencies for exchange transactions. In 2016 the government introduced bond notes and coins, but the population showed little faith in them. US Dollar and other foreign currencies were banned in June 2019 and a new Zimbabwe Dollar was introduced in November 2019, but inflation is still estimated to be 300%. (BBC News 2019)

Monetary Unions

There are two major monetary unions in Africa.

The Central African CFA franc (XAF) is the common currency of Cameroon, Central African Republic, Chad, Equatorial Guinea, Gabon and Republic of the Congo. The Central Bank for the XAF is Bank of Central African States (BEAC) which was established in 1972 and is responsible for issuing currency and guaranteeing its stability, promoting financial stability, promoting the smooth functioning of payment and settlement systems, and holding and managing the official foreign exchange reserves of the Member States. (Bank of Central African States 2020)

The West African CFA franc (XOF) is the common currency of Benin, Burkina Faso, Guinea-Bissau, Ivory Coast, Mali, Niger, Senegal and Togo. The Central Bank for the XOF is Central Bank of West African States (BCEAO). A previous colonial organization was transformed into BCEAO in 1959. Monetary Union was established in 1962 as the West African Monetary Union (WAMU). The bank is responsible for issuing currency, managing monetary policy, organizing and monitoring banking activities and providing assistance for the WAMU member states. (Central Bank of West African States 2020)

The CFA Franc was established in 1945. It was originally pegged to the French Franc and from 1999 the Euro. In December 2019, President Macron announced that the CFA Franc would be replaced in West African countries by the ECO. The ECO will remain pegged to the EURO, but the African countries will no longer have to deposit 50% of their reserves in French Banks and the French will no longer have a seat on the West African Central Bank. It also opens the possibility of additional states joining the union. Ivorian President Alassane Ouattara welcomed the move as a further step away from the colonial past. (End of CFA Franc 2020)

International Financial Reporting Standards (IFRS)

The International Accounting Standards Board (IASB) has promulgated International Financial Reporting Standards since 2001. (King & Case 2017). Worldwide 144 jurisdictions require IFRS for all or most domestic public entities of which 36 are in Africa. (IFRS use around the world 2020)

Western and Central African Countries

Companies listed on a stock exchange and other publicly accountable companies in the 17 West and Central African Jurisdictions that are members of the Harmonization of Corporate Law in Africa (OHADA) begin using IFRS Standards in Consolidated Financial Statements January 1, 2019

The jurisdictions that are members of the organization are Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Cote d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Guinea-Bissau, Mali, Niger, Republic of the Congo, Senegal & Togo. (IFRS African Countries 2020)

The transition to IFRS is justified by a desire for international recognition, development of the private sector and achieving comparability of accounting information. (Randriamiarana 2015)

Difficulties in adopting IFRS include the transition from regional accounting policies such as SYSCOHADA (SYSCOHADA revised 2020). Other issues affecting the adoption of IFRS include the rate of change, education of accountants and cultural differences. (Randriamiarana 2015)

North Africa

Egypt & Morocco are members of the International Federation of Accountants (IFAC), which requires members to adopt international Standards.

Egyptian Accounting Standards are based on the 2005 version of IFRS (IFAC Egypt 2020)

Elbayoumi, Awadallah & Basuony (2019) reviewed critical factors in the development of accounting in Egypt. They characterized Egypt as a Code Law Country exhibiting lack of Investor protection, legal inefficiencies, and weak enforcement mechanisms. Reforms include adoption of international standards and improved quality of accounting and auditing. The dominance of the public sector results in accounting regulations that are not market driven. Increased foreign investment has led to a revival of the accounting and auditing profession in Egypt, however there is no monitoring of accounting and auditing practices.

Morocco has committed to IFRS but as of 2016 it was not legally binding except for banks, which have been using IFRS since 2008. (IFAC Morocco 2020)

Other African countries

Institute of Chartered Accountants of South Africa (SAICA) made the decision to base its accounting standards on IFRS in 1993.

Kenya adopted IFRS in 1998. (Mwaura & Nyaboga 2009)

IFRS is required in Botswana, Comoros, Eswantini, Ghana, Lesotho, Nigeria, Namibia, Mauritius, Rwanda, Tanzania, Uganda, Zambia & Zimbabwe and is permitted in Madagascar. (IFRS by Jurisdiction 2020)

Zaiyol, Andrew & MemgaUdende (2017) concluded that adoption of IFRS in Nigeria had significant impact on the accountability and quality of financial information.

Using data from 205 companies across 13 African countries Tawiah & Boolaky (2019) found an average IFRS Compliance score of 73.09% (Minimum 62.86%, Maximum 85.61%). They also determined a positive association between Audit Committee competence and Compliance, a positive association between Chartered Accountants on the Board and Compliance and, that compliance is improving over time but there is less Compliance with the latest standards.

Problems in adopting IFRS in Africa include the fact that IFRS were designed for developed countries in matured capital markets. Countries without stock markets have totally different financial reporting needs to industrialized countries Industrialized countries have converged to IFRS on their own terms, whilst edging less developed countries towards adopting them without any modification. Accounting scholars like Ole-Hope (2006) argue that the decision of an investor to invest in a particular country is actually independent of that country's financial accounting system. There is a degree of non-enforceability of regulations in Africa. There is great diversity in the socio-economic settings on that continent. If African countries should adopt IFRS as given, it is unclear how the benefits of IFRS can be measured. And some

African countries are much dominated by the public sector; other countries depend largely on the private sector. This makes their informational needs differ from each other (Zori 2012)

Another impediment to full implementation of IFRS is the discrimination some black South Africans experienced even after the end of apartheid. Hammond, Clayton & Arnold (2012) report that the stories of discrimination experienced by black Chartered Accountants contrast sharply with the official version of history as published in professional journals. Racial discrimination combined with economic factors made things especially difficult for black Chartered Accountants, which reduced the diversity of available qualified accountants in the last quarter of the 20th Century. (Hammond, Clayton & Arnold 2012)

Accounting Research

In order to fulfill the ambition to adopt IFRS and drive the development of accounting in Africa and influence international standard setting, Africa requires a robust accounting research infrastructure.

Negash, Lemma & Samkin (2019) have noted that in Anglophone Sub-Saharan Africa (Anglophone SSA), research output is low. This they attribute to factors specific to the institutions of higher education. They conclude that the factors driving academic accounting research, such as regulation, are weaker in Anglophone SSA.

However, the situation is somewhat different in South Africa. Verhof & Samkin (2017) have noted the strong influence SAICA, and its predecessors have exerted on South African Accounting Syllabi. While SAICA supports accounting research it is conditional on meeting SAICA's particular view on scholarship. While it is important that professional bodies engage in making curriculum include real world situations - this should not exclude other areas of research that can contribute to the advancement of the subject.

Accounting Pedagogy

In order to effectively adopt, implement and fully develop IFRS in Africa a robust accounting infrastructure is required.

The road to qualification for accountants may be expressed as the three E's, namely Education, Examination and Experience. (AICPA 2020) Typically the professional accounting organization will define these requirements however it is also common for the Education component to be delivered by institutions of higher education.

South Africa

Coetzee & Shmulian (2013) have described the effect on Pedagogy in South African Universities resulting from the adoption of IFRS. Universities still have the primary objective of preparing students for professional qualification. The change from "rules based" accounting to "principles based" accounting provided opportunities to change from rote learning of accounting rules. IFRS adoption in South Africa posed some difficulty to accounting education programs in terms of the translation into Afrikaans for purposes of supporting textbooks and study material. However, the adoption of IFRS has provided momentum to accounting education programs in embracing more conceptually based teaching of financial reporting, an approach to pedagogy that is acknowledged as ideally suited to preparing students for their careers in the fluidity of the modern financial reporting environment.

Van Rooyen (2015) identified advances in social media in accounting teaching at University of South Africa (Unisa) a distance learning institution. However, many students do not have access or cannot afford to use the Internet regularly.

Accounting lecturers incorporated a number of social media applications into a second-year module that are accessible via mobile phone. It is evident that this enhances the teaching and learning of accounting.

Nigeria

Olaoye, Ogandipe & Dada (2019) have reported a positive correlation between formal education and forensic accounting development in Nigeria. The growth of forensic accounting practices is aided by the quality of formal education. The integration of forensic accounting into the curriculum of the Nigerian education system is significantly related to the rate of development in forensic accounting.

Ofoegbu, Okaro & Okafor (2018) have been more critical of Nigerian accounting education. They cited low curriculum content, and low motivation. They found poor cooperation between tertiary

institutions, accountancy practitioners and employers. They found teaching philosophy not in line with modern developments, nepotism in recruitment of lecturers and admission of students and no agreement on accounting education to produce graduates suitable for the labor market

However, on the positive side Okafor & Egbon (2011) found no significant difference between the academic performance of male and female accounting students in undergraduate accounting courses. The reason why female performance tends to compare favorably with that of males in Nigeria may not be unconnected with the current awareness by women that good education would give them access to job opportunities that will earn them respect among men. If women are to gain recognition in this kind of society, and in a specific discipline hitherto dominated by men, they might have to strive for outstanding performance.

Egypt

Megid (2014) states that E-learning can offer innovative solutions to problems facing conventional education in Egypt, in particular in accounting courses. It will ease overloaded classes in Egyptian colleges, mitigate the high prices of traditional textbooks, reduce transportation problems and the need for continued education and specialized training. It will improve interaction with the international educational community and enhance the level of national education. Findings show an overall positive student attitude toward and satisfaction with the blended learning course and acceptance for responsibility of their learning, but they need direct support and development for their time management skills. Students prefer the blended learning environment rather than fully online learning, as they perceived that student-instructor as well as student-student interaction and collaboration are important issues in the quality assurance of learning.

Ghana

The results of a study by Ahinful, Tauringana, Bansah & Essuman (2019) indicate there is a need for accountants for economic development in Ghana.

To improve academic performance, students should be informed of the opportunities and prospects available to accounting professionals. Academic performance was positively correlated with, Volition – the student freely chooses to study accounting, and Expectation - the accounting profession brings greater prestige and respect in society. The accounting profession helps one earn a good remuneration. Studying accounting helps to easily find work. Pursuing accounting makes one more likely to succeed in life. Other factors, which can positively affect the outcomes of accounting education, are, Academic Interest – the desire to study accounting and Learning attitude –time and effort expended in learning accounting. (Ahinful, Tauringana, Bansah & Essuman 2019)

Conclusion

The development of accounting in Africa is robust but varies by country. Professional accounting organizations are well developed in most jurisdictions, as are Central Banks. Adoption of International Financial Accounting Standards is in place or plans are established to adopt the standards in most countries.

Difficulties in adopting international standards however are significant and require enhancements to the accounting infrastructure. Institutions of higher education need to further develop accounting research and pedagogy in order to support the transition to international standards. This is also necessary so that African nations can play a role in the future development of international standards that will recognize the particular needs of developing countries. The continued development of accounting in Africa will support the growth in African economies by further enhancing stewardship and reporting by African entities in accordance with international standards.

This review is intended to be an introductory overview of current developments across the continent of Africa and across several related accounting topics. It has been limited to a review of published peer reviewed journals, information posted on the websites of recognized professional organizations and limited other published information.

It is hoped that this overview will provide the background from which future researchers can develop further investigations into specific topics such as the structure of the accounting profession,

auditor supervision, currency, accounting research or accounting pedagogy across the continent or a region of Africa.

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The effect of enterprise resource planning on the organizational performance of organizations through HRM practices

An Applied Study on the Reinforcing Steel Sector Companies in Egypt

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Keyword

Balanced Scorecard, Enterprise Resource Planning, Human Resource Management, Organizational Performance.

Abstract

This research aims to study the impact of Enterprise Resource Planning (ERP) (information quality, system quality and system use) and human resource management (HRM) practices (training and development, information exchange, recruitment and testing, compensation and benefits, safety and health and employee relations) on organizational performance. Through the Balanced scorecard (financial performance, customer performance, supplier performance and employee performance) in the rebar sector companies within the Arab Republic of Egypt. Therefore, the researcher used the positivism philosophy in this study and the deductive approach because they are more compatible with the nature of the research and with what the researcher wants to reach. He also followed a quantitative method in collecting data, as he prepared a questionnaire and distributed it to 260 individuals working in the reinforcing steel sector.

The data is analyzed using some statistical methods such as: correlation, and the structural equation model. The results fully accept the study hypotheses that there is a statistically significant relationship between ERP and organizational performance through the balanced scorecard. In addition to, relationship between ERP and HRM practices, moreover, relationship between HRM practices and organizational performance through the balanced scorecard. While it partially accepts that here is a statistically significant role for HRM practices, in the relationship between ERP and organizational performance through the Balanced Scorecard.

Introduction

Organizations are facing an increase in global competition, and these organizations have no other options but to be more effective to keep pace with the changes in competition. Every organization has its vision, mission, and strategy, and the organizational performance through the Balanced Scorecard is a management system that aims to help the organization achieve its objectives, as the Balanced Scorecard allows for the evaluation of the organization's performance in a balanced and comprehensive manner. Al-Najjar and Kalaf (2012) aimed to identify the importance of the balanced scorecard and study the dimensions on which it is based, try to apply it, explain how it is used in evaluating the performance of the institution, as it is considered a modern tool in the performance evaluation process of the organization. And it relied on the descriptive approach in the theoretical side in addition to personal interviews and the collection of information provided by the institution. Among its most prominent results is that the evaluation of financial performance is considered necessary for the organization because it gives a quick and comprehensive picture of the actual performance of the organization, as it enables to know the strengths to strengthen them and to know the weaknesses to avoid them. In addition to considering the balanced scorecard as one of the most important tools used in evaluating performance, as its goal is to achieve the highest possible level of business number, so we find it strives to maintain its customers by satisfying them and acquiring new customers.

Based on previous studies, it was found that one of the factors that affect organizational performance through the balance card is ERP through human resource management practices. Thus, the research will

discuss the impact of ERP and human resource performance practices on organizational performance through the Balanced Scorecard.

It is worth noting that many large companies have implemented new information systems under the name of Organization Resource Planning (ERP) systems in response to global changes, the most important of which is the increase in global competition. Reasonable time. The applications of ERP systems include, supply chain management (SCM), customer relationship management (CRM), product life cycle management (PLM), electronic procurement and financial management), and ERP systems can also integrate company operations and help organizations to Achieving competitive advantage, including improving productivity, obtaining a competitive advantage, satisfying customer needs, and increasing their ability to respond.

The ERP systems provide solutions by providing departments with mechanisms of clarification and more transparency for all the processes that take place in the organization, and it also aims to enhance and improve the competitiveness of the organization by improving the ability of the organization to generate information with extreme accuracy and provide it in a timely manner. It is worth noting that ERP is a process that companies use to manage and integrate important parts of their business, and it is also preparing many of the important ERP software applications for companies because it affects human resources by integrating all the processes necessary to operate their companies in one system. Enterprises integrate all essential business processes in order to enhance efficiency and maintain a competitive position. This research deals with it were concluded that there are positive effects of ERP on organizational performance through the Balanced Scorecard, which ultimately leads to improving the overall performance of companies.

Literature Review

In the following sections, resource planning in the organization and human resource management practices and their impact on organizational performance will be explained through the Balanced Scorecard, as organizational or institutional performance is considered a dependent variable where human resource management practices play a mediating role in the relationship between resource planning in the organization and its impact on organizational performance. With the Balanced Scorecard. Previous studies dealing with and clarifying these relationships are presented and the theoretical basis for the conceptual framework is presented, explaining the methodological aspects of these studies.

The Relationship between Enterprise Resource Planning and Organizational Performance

This section deals with the relationship between ERP and organizational performance through some studies that the researcher dealt with in studying this relationship over the years. Anderson et al. (2011) sought to know the effect of ERP on organizational performance. Where the data relied on collecting financial data from Compustat, and data on the start date and end date of ERP implementation between 1990 and 2005 for companies in the oil and gas industry. Among the most prominent findings was that ERP had a positive effect on organizational performance. Al-Dhaafri and Al-Swidi (2014) indicated the extent of the role of ERP to improve organizational performance. To examine the assumed study form, data were collected from the department officers in Dubai Police. The survey questionnaire was used as a way to collect data, 111 questionnaires were valid for analysis and testing of the hypotheses. The results confirmed that the implementation of ERP had a positive and significant impact on organizational performance.

Shen et al. (2016) emphasized the relationship between ERP and organizational performance. The data collected using questionnaires sampling from high-tech companies that have implemented ERP systems over the past three years (such as SAP, Oracle, Baan, JDEdwards, SSA, etc.). After that, the hierarchical dimensions of the balanced scorecard (BSC) were developed to measure the ERP performance of each company and its impact on the strategic objectives. The results found that ERP had a positive effect on organizational performance.

However, Saleh and Thoumy (2018) sought to know the extent of the impact of ERP on organizational performance. The data collected relied on a questionnaire to collect the size and type of company for each respondent. In the first section of the questionnaire, general information about the respondent, his background and the company he works for are analyzed. The results indicated that the ERP units had a

positive variable effect on organizational performance. Based on the previous studies that had been circulated, the researcher could assume the first hypothesis, which is that there is a statistically significant relationship between ERP and organizational performance.

H1: There is a Statistically Significant Relationship between ERP and Organizational Performance

The Relationship between Enterprise Resource Planning and Human Resource Management Practices

This section deals with the relationship between ERP and human resource management practices through some studies that the researcher dealt with in studying this relationship over the years. Guimaraes et al. (2015) aimed to test the impact of implementation of ERP on human resource management practices (HRMP). To reach and verify a goal, a questionnaire form was used, where the required data were collected through a questionnaire from a group of project managers for ERP projects. Where the most prominent results were to conclude that the human aspects related to the implementation of ERP are very important and can explain a large part of the change in the system's effect on end-user jobs and thus make HRMP work effectively and hence the importance of application of the ERP system to HRMP. Kushwaha et al. (2018) aimed to measure the impact of ERP on human resource management and compared its effectiveness regarding ERP on human resource management. The required data were collected from three companies, Shriram Pistons and Rings Ltd., Bosch and Tata of Automobile Sector. As the size of the sample in the research consists of 80 samples, including the companies that had been mentioned. As one of the most prominent results was that there was a statistically significant relationship between Enterprise Resource Planning (ERP) and Human Resources Management (HRMP). Moreover, the human resource information system helped the organization to make the decision when training and skills development was necessary.

Widjaja et al. (2019) aimed to study the models and indicators used to evaluate the implementation of the enterprise resource planning (ERP) system and its impact on human resource management (HRM) practices in higher education institutions. In order to verify the main aim, study and evaluate the implementation of the ERP system in the organization and its impact on the human resource management practices in higher education institutions. The data required to achieve the goal was collected by distributing questionnaires to 32 respondents and analyzing these collected data afterwards and performing a validity and reliability test. Thus, the results showed the extent of the correlation of resource planning in the organization from the quality of the system, the quality of information and the use of the system and its impact on human resource management practices from training and development, information exchange, recruitment and selection, compensation and benefits, safety and health and employee relations.

Based on previous studies that have been circulated, the researcher can assume the second hypothesis of the study, which is that there is a statistically significant relationship between enterprise resource planning and human resource management practices.

H2: There is a Statistically Significant Relationship between Enterprise Resource Planning and Human Resource Management Practices

The Relationship between Human Resource Management Practices and Organizational Performance

This section deals with the relationship between human resource management practices (HRMP) and organizational performance through some studies that the researcher dealt with in studying this relationship over the years.

Quresh et al. (2010) aimed to clarify the relationship between HRMP and the financial performance of banks in Pakistan. The employee. Thus, 46 Pakistani banks were contacted, and the response was from 38 banks. The results came to prove that there was a positive relationship between all the variables under study and the financial performance of banks, and that the performance of banks should focus on these four variables, as they were mandatory.

Subramaniam et al. (2011) aimed to determine the relationship between the main dimensions of HRMP and the organizational performance of the institution. To this end, a survey was conducted on small and medium organizations in the central region of Peninsular Malaysia, where the questionnaire was sent to 200 organizations who were willing to do it and it was sent specifically to human resource

managers or the owner of the organization, and after two weeks, 84 were returned. The result came to prove the existence of a positive relationship between all dimensions (except job security) of HRM and organizational performance.

Hassan et al. (2013) contributed to researching the impact of human resource practices on employee satisfaction and employee loyalty in the banking sector in Pakistan. The data were collected from employees of five public banks, out of 210 distributed questionnaires answered, it got a total of 177 valid answers. The results concluded that there was a close correlation and positive relationship between human resource practices, employee satisfaction and employee loyalty in the banking sector.

Al-Tit (2016) clarified the relationship between HRMP and organizational performance for Jordanian industrial companies. A total of 300 questionnaires were sent by e-mail to managers at different administrative levels, rounds yielded 247 valid questionnaires for analysis to test the relationship hypotheses. Among the most prominent findings was that HRMP had a significant direct positive impact on organizational performance.

Wikhamn (2019) revealed how sustainable HRMP affect the relationship between innovation and customer satisfaction. Where the data relied on an online questionnaire to a sample of hotels registered as members of the Swedish Hospitality Industry Organization, 195 managers representing 195 organizations participated in the survey. The results indicated that the relationship between innovation and customer satisfaction depended on sustainable human resource practices in the organization, although innovation and sustainable human resource practices positively affect customer satisfaction, their interaction indicated that one of them can replace the other to achieve superior customer satisfaction. The results found that sustainable human resource practices enhanced the hotel's ability to innovate and satisfy customers.

Based on the previous studies that have been circulated, the researcher can assume the third hypothesis of the study, which is that there is a statistically significant relationship between HRPM and organizational performance.

H3: There is A Statistically Significant Relationship between Human Resource Management Practices and Organizational Performance

The Role of HRMP in the Relationship Between ERP on Organizational Performance Through the Balanced Scorecard

This section deals with the role of human resource management practices in the relationship between resource planning in the organization on organizational performance through the balanced scorecard through some studies that the researcher has dealt with in studying this relationship over the years. Lin (2015) aimed to know the effect of ERP on the Balanced Scorecard card (BSC), where it was found that there were several dimensions that affect the BSC. The researcher was studied using the quantitative approach through a questionnaire by collecting data from 244 managers responsible for knowledge management projects in their companies. The results concluded that there was a strong relationship between ERP and BSC. Results also showed that ERP had an impact on the four dimensions that affect BSC, and that the four dimensions of BSC were important for company managers to improve overall organizational performance.

Albrecht et al. (2015) aimed to support the model that demonstrates how employee participation and performance, whether individual or collective, can be integrated within the human resource management fabric of an organization if the goal is to seek a sustainable competitive advantage. It followed the descriptive and analytical approach using surveys to address the research topic. These results had a positive impact that will help organizations achieve a competitive advantage. Parto et al. (2016) aimed to know the impact of the implementation of ERP on the financing performance of companies and the impact of the model that was developed to study this relationship between ERP and financial performance. This study conducted a survey on companies and data was collected and analyzed. The results of the experimental analysis of the extracted data indicated that the complete implementation of the ERP system in the enterprise in all its aspects leads to a positive impact on the performance of the company's financial affairs.

Kushwaha et al. (2018) aimed to study the effect of ERP on HRM. It also explained that the productivity of any organization is through the HRM and its effective management, the application of information technology such as ERP integrates many business processes and information systems. The data relied on preliminary data gathered through a structured questionnaire distributed on three companies: Tata and Rings. Ltd Bosch and Shrirman pistons for the automotive sector. The results concluded that ERP had a significant positive impact on HRM for these companies.

Khan (2019) aimed to find out the effect of ERP on operational effectiveness, communication process, HRMP and measuring the impact on performance. Financial performance and to prove the objective, a survey was conducted among employees, where the most prominent results were to prove the existence of a positive relationship between resource planning in the organization on its organizational performance and to achieve this goal, there was a need for an effective and trained work team to operate the ERP system.

Based on previous studies that have been circulated, the researcher can assume the fourth hypothesis of the study, which is that there is a statistically significant role for human resource management practices in the relationship between enterprise resource planning and organizational performance through the balanced scorecard.

H4: There is a Statistically Significant Role for Human Resource Management Practices in the Relationship Between Enterprise Resource Planning and Organizational Performance through the Balanced Scorecard

Research Methodology

This study aims to examine the impact of enterprise resource planning (information quality, system quality, system use) and human resource management practices (training and development, information exchange, recruitment and testing, compensation and benefits, safety and health, employee relations) on organizational performance through the scorecard Balanced (financial performance, customer performance, supplier performance, employee performance). To test this goal, the researcher used the positivism philosophy in this study and the deductive approach because they are more compatible with the nature of the research and with what the researcher wants to reach. Consequently, the data required to test the objective was collected through quantitative data issued from the questionnaire that was distributed to collect the required data from the sample to finally arrive at a study of the effect of enterprise resource planning on organizational performance through the mediator role that human resource management practices play in this relationship. The variables used in this study can be categorized into Three main types which are the dependent and independent and moderating variables.

Independent Variable: Enterprise Resource Planning (information quality, system quality and system use).

Dependent Variable: Organizational performance through the Balanced Scorecard (financial performance, customer performance, supplier performance and employee performance).

Moderating variables: Human resource management practices (training and development, information exchange, recruitment and testing, compensation and benefits, safety and health and employee relations).

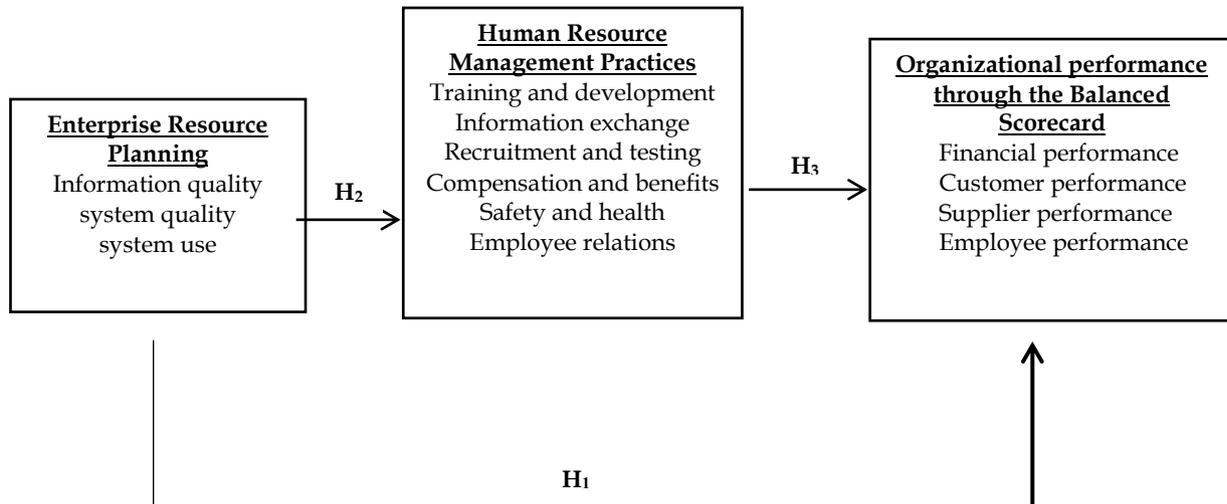
Figure 1, represents the proposed study model for this research, where the study aimed at the variables:

Research Analysis and Findings

The researcher in this section tests the hypotheses of the research, which is that there is a moral relationship between research variables. First, the study starts with Validity and Reliability Tests. Second, Descriptive analysis is used to data. Third, the researcher performs the normality testing in order to find out if the data is subject to the normal distribution or not. Finally, regression assumption is conducted.

Figure 1: Research Framework

Testing the First Hypothesis of the Relationship between ERP and Organizational Performance



The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use) and financial performance. It was found that there is a positive statistically significant correlation between the quality of information, the quality of the system, the use of the system, and the financial performance as the values of the correlation coefficient are 0.496, 0.473, and 0.427, respectively, and the significance level is less than 0.05.

The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use) and internal operation. It was found that there is a positive statistically significant correlation between the quality of information, the quality of the system, the use of the system, and the internal operations, as the values of the correlation coefficient are 0.387, 0.345, and 0.354, respectively, and the level of significance is less than 0.05.

Table 1 shows the multiple regression model for enterprise resource planning, including (information quality, system quality, and system use) and their impact on the dependent variable, which is financial performance. Financial performance as the significance level values is less than 0.05 and the regression coefficient values are 0.280, 0.287, and 0.177, respectively. Moreover, its R Square value is 0.317, which means that 31.7% of financial performance can be explained by information quality, system quality, and system utilization.

In addition, Table 1 shows the multiple regression model for enterprise resource planning, including (information quality, system quality, and system use) and their impact on the dependent variable, which is internal operation. The researcher found that there is a positive significant effect for both information quality, system quality, and system usage on internal operation, where the significance level values are less than 0.05 and the regression coefficient values are 0.197, 0.147, and 0.188, respectively. Moreover, its R Square value is 0.200, which means that 20% of internal operations can be explained by information quality, system quality, and system utilization.

Table 1: Regression Analysis for Enterprise Resource Planning on Financial Performance and Internal Operation

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. | R Square |
|--|-----------------------------|------------|---------------------------|-------|------|----------|
| | B | Std. Error | Beta | | | |
| (Constant) | 1.115 | .216 | | 5.155 | .000 | .317 |
| Information Quality | .280 | .058 | .267 | 4.809 | .000 | |
| System Quality | .287 | .067 | .231 | 4.273 | .000 | |
| System Use | .177 | .056 | .163 | 3.152 | .002 | |
| a. Dependent Variable: Financial performance | | | | | | |
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
| | B | Std. Error | Beta | | | |
| (Constant) | 2.059 | .213 | | 9.687 | .000 | 0.200 |
| Information Quality | .197 | .057 | .206 | 3.433 | .001 | |
| System Quality | .147 | .066 | .131 | 2.230 | .026 | |
| System Use | .188 | .055 | .190 | 3.392 | .001 | |
| Dependent Variable: Internal Operation | | | | | | |

Based on the previous results, it can be seen that the first sub-hypothesis of the first hypothesis "There is a statistically significant relationship between enterprise resource planning and financial performance" is fully acceptable.

Based on the previous results, it can be seen that the second sub-hypothesis of the first hypothesis, "There is a statistically significant relationship between enterprise resource planning and internal operations" is fully acceptable.

The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use) and learning and growth. It was found that there is a positive statistically significant correlation between the quality of information, the quality of the system, the use of the system, and learning and growth as the values of the correlation coefficient are 0.427, 0.396, and 0.429, respectively, and the level of significance is less than 0.05.

The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use) and customer satisfaction. It was found that there is a positive statistically significant correlation between the quality of the information, the quality of the system, the use of the system, and the customer's satisfaction, as the values of the correlation coefficient are 0.360, 0.355, and 0.365 respectively, and the level of significance is less than 0.05.

Table 2 shows the multiple regression model for resource planning for organizations, including (information quality, system quality, and system use) and their impact on the dependent variable, which is learning and growth. The researcher found that there is a positive significant effect for both information quality, system quality, and system usage on Learning and growth as the significance level values are less than 0.05 and the regression coefficient values are 0.214, 0.174, and 0.272, respectively. Moreover, its R Square value is 0.263, which means that 26.3% of learning and growth can be explained by information quality, system quality, and system usage.

In addition, Table 2 shows the multiple regression model for enterprise resource planning, including (information quality, system quality, and system usage) and their impact on the dependent variable, which is customer satisfaction. Customer satisfaction as the significance level values is less than 0.05 and the regression coefficient values are 0.137, 0.172, and 0.206, respectively. Moreover, its R Square value is 0.193, which means that 19.3% of customer satisfaction can be explained by information quality, system quality, and system utilization.

Table 2: Regression Analysis for Enterprise Resource Planning on Learning and Growth and Customer Satisfaction

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
|--|-----------------------------|------------|---------------------------|-------|------|----------|
| | B | Std. Error | Beta | | | |
| (Constant) | 1.277 | .221 | | 5.788 | .000 | .263 |
| Information Quality | .214 | .059 | .207 | 3.594 | .000 | |
| System Quality | .174 | .069 | .143 | 2.544 | .011 | |
| System Use | .272 | .057 | .254 | 4.739 | .000 | |
| a. Dependent Variable: Learning and Growth | | | | | | |
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
| | B | Std. Error | Beta | | | |
| (Constant) | 1.986 | .207 | | 9.592 | .000 | .193 |
| Information Quality | .137 | .056 | .148 | 2.447 | .015 | |
| System Quality | .172 | .064 | .157 | 2.669 | .008 | |
| System Use | .206 | .054 | .215 | 3.819 | .000 | |
| a. Dependent Variable: Customer Satisfaction | | | | | | |

Based on the previous results, it can be seen that the third sub-hypothesis of the first hypothesis, "There is a statistically significant relationship between enterprise resource planning and learning and growth" is fully acceptable.

Based on the previous results, it can be seen that the fourth sub-hypothesis of the first hypothesis "There is a statistically significant relationship between enterprise resource planning and customer satisfaction" is fully acceptable. Based on these results, the first hypothesis "there is a statistically significant relationship between enterprise resource planning and organizational performance through the balanced scorecard" is fully acceptable.

Testing the Second Hypothesis of the Relationship between Enterprise Resource Planning and Human Resource Management Practices

The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use) and training and development. It was found that there is a positive statistically significant correlation between the quality of information, the quality of the system, the use of the system, and training and development, as the values of the correlation coefficient are 0.420, 0.392, and 0.479, respectively, and the significance level is less than 0.05.

The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use) and information exchange. It was found that there is a positive statistically significant correlation between the quality of information, the quality of the system, the use of the system, and the exchange of information, as the values of the correlation coefficient are 0.512, 0.443, and 0.469, respectively, and the significance level is less than 0.05.

Table 3 shows the multiple regression model for resource planning for organizations, including (information quality, system quality, and system use) and their impact on the dependent variable, which is training and development. The researcher found that there is a positive significant effect for both information quality, system quality, and system usage on Training and development, where the significance level values are less than 0.05 and the regression coefficient values are 0.118, 0.136, and 0.274, respectively. Moreover, its R Square value is 0.287, which means that 28.7% of training and development can be explained by information quality, system quality, and system utilization.

In addition, Table 3 shows the multiple regression model for enterprise resource planning, including (information quality, system quality, and system use) and their impact on the dependent variable, which is information exchange. The researcher found that there is a positive significant effect for both the quality of information, the quality of the system, and the use of the system on Information exchange, where the significance level values are less than 0.05 and the regression coefficient values are 0.291, 0.189, and 0.229, respectively. Moreover, the value of R Square is 0.349, which means that 34.9% of the information exchange can be explained by information quality, system quality, and system usage.

Table 3: Regression analysis of enterprise resource planning on training and development and Information Exchange

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. | R Square |
|---|-----------------------------|------------|---------------------------|--------|------|----------|
| | B | Std. Error | Beta | | | |
| (Constant) | 1.861 | .167 | | 11.121 | .000 | .287 |
| Information Quality | .118 | .045 | .149 | 2.622 | .009 | |
| System Quality | .136 | .052 | .145 | 2.619 | .009 | |
| System Use | .274 | .044 | .332 | 6.284 | .000 | |
| a. Dependent Variable: Training and Development | | | | | | |
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
| | B | Std. Error | Beta | | | |
| (Constant) | 1.044 | .195 | | 5.369 | .000 | .349 |
| Information Quality | .291 | .052 | .301 | 5.551 | .000 | |
| System Quality | .189 | .060 | .165 | 3.118 | .002 | |
| System Use | .229 | .051 | .228 | 4.517 | .000 | |
| a. Dependent Variable: Information Exchange | | | | | | |

Based on the previous results, it can be noted that the first sub-hypothesis of the second hypothesis "There is a statistically significant relationship between enterprise resource planning and training and development" is fully acceptable.

Based on the previous results, it can be seen that the second sub-hypothesis of the second hypothesis "there is a statistically significant relationship between enterprise resource planning and information exchange" is fully acceptable.

The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use) and recruitment and selection. It was found that there is a positive statistically significant correlation between the quality of information, the quality of the system, the use of the system, and the recruitment and selection, as the values of the correlation coefficient are 0.476, 0.411, and 0.425, respectively, and the level of significance is less than 0.05.

The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use) and compensation and benefits. It was found that there is a positive statistically significant correlation between the quality of information, the quality of the system, the use of the system, and compensation and benefits as the values of the correlation coefficient are 0.507, 0.432, and 0.541, respectively, and the level of significance is less than 0.05.

Table 4 shows the multiple regression model for enterprise resource planning, including (information quality, system quality, and system use) and their impact on the dependent variable, which is recruitment and selection. The researcher found that there is a positive significant effect for both information quality, system quality, and system usage on Recruitment and selection as the significance level values are less than 0.05 and the regression coefficient values are 0.263, 0.261, and 0.194, respectively. Moreover, its R Square value is 0.282, which means that 28.2% of recruitment and selection can be explained by information quality, system quality, and system utilization.

In addition, Table 4 shows the multiple regression model for enterprise resource planning, including (information quality, system quality, and system use) and their impact on the dependent variable, which is compensation and benefits. The researcher found that there is a positive significant effect for both information quality, system quality, and system usage on Compensation and benefits as the significance level values are less than 0.05 and the regression coefficient values are 0.215, 0.101, and 0.297, respectively. Moreover, its R Square value is 0.369, which means that 36.9% of compensation and benefits can be explained by information quality, system quality, and system utilization.

Table 4: Regression Analysis for Enterprise Resource Planning on Recruitment and Selection, Compensation and Benefits

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
|--|-----------------------------|------------|---------------------------|-------|------|----------|
| | B | Std. Error | Beta | | | |
| (Constant) | 1.545 | .199 | | 7.781 | .000 | .282 |
| Information Quality | .263 | .054 | .280 | 4.916 | .000 | |
| System Quality | .161 | .062 | .145 | 2.608 | .009 | |
| System Use | .194 | .052 | .199 | 3.750 | .000 | |
| a. Dependent Variable: Recruitment and Selection | | | | | | |
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
| | B | Std. Error | Beta | | | |
| (Constant) | 1.536 | .164 | | 9.363 | .000 | 0.369 |
| Information Quality | .215 | .044 | .260 | 4.869 | .000 | |
| System Quality | .101 | .051 | .103 | 1.971 | .049 | |
| System Use | .297 | .043 | .345 | 6.949 | .000 | |
| a. Dependent Variable: Compensation and Benefits | | | | | | |

Based on the previous results, it can be seen that the third sub-hypothesis of the second hypothesis “There is a statistically significant relationship between enterprise resource planning and recruitment and selection” is fully acceptable.

Based on the previous results, it can be seen that the fourth sub-hypothesis of the second hypothesis “There is a statistically significant relationship between enterprise resource planning and compensation and benefits” is fully acceptable.

The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use), safety and health. It was found that there is a positive statistically significant correlation between the quality of information, the quality of the system, the use of the system, and safety and health as the values of the correlation coefficient are 0.477, 0.490, and 0.465, respectively, and the significance level is less than 0.05.

The correlation coefficient between enterprise resource planning was tested, including: (information quality, system quality, and system use) and employee relations. It was found that there is a positive statistically significant correlation between the quality of information, the quality of the system, the use of the system, and the relations between employees, as the values of the correlation coefficient are 0.461, 0.480, and 0.446, respectively, and the level of significance is less than 0.05.

Table 5 shows the multiple regression model for enterprise resource planning, including (information quality, system quality, and system use) and their impact on the dependent variable, which is safety and health. Safety and health as the significance level values are less than 0.05 and the regression coefficient values are 0.155, 0.245, and 0.198, respectively. Moreover, its R Square value is 0.327, which means that 32.7% of safety and health can be explained by information quality, system quality, and system utilization.

In addition, Table 5 shows the multiple regression model for enterprise resource planning, including (information quality, system quality, and system use) and their impact on the dependent variable, which is relations between employees. The researcher found that there is a positive significant impact for both information quality, system quality, and system usage on employee relations where the significance level values are less than 0.05 and the regression coefficient values are 0.160, 0.291, and 0.196, respectively. Moreover, its R Square value is 0.320, which means that 32% of employee relationships can be explained by information quality, system quality, and system utilization.

Table 5: Regression analysis of enterprise resource planning on safety and health and Employee Relation

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
|---|-----------------------------|------------|---------------------------|--------|------|----------|
| | B | Std. Error | Beta | | | |
| (Constant) | 1.738 | .167 | | 10.393 | .000 | .327 |
| Information Quality | .155 | .045 | .189 | 3.441 | .001 | |
| System Quality | .245 | .052 | .254 | 4.718 | .000 | |
| System Use | .198 | .044 | .233 | 4.542 | .000 | |
| a. Dependent Variable: Safety and Health | | | | | | |
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
| | B | Std. Error | Beta | | | |
| (Constant) | 1.396 | .184 | | 7.605 | .000 | .320 |
| Information Quality | .160 | .049 | .179 | 3.231 | .001 | |
| System Quality | .291 | .057 | .276 | 5.105 | .000 | |
| System Use | .196 | .048 | .212 | 4.105 | .000 | |
| a. Dependent Variable: Employee Relations | | | | | | |

Based on the previous results, it can be seen that the fifth sub-hypothesis of the second hypothesis "There is a statistically significant relationship between enterprise resource planning and safety and health" is fully acceptable.

Based on the previous results, it can be seen that the sixth sub-hypothesis of the second hypothesis "There is a statistically significant relationship between enterprise resource planning and employee relations" is completely acceptable. Based on these results, the second hypothesis "there is a statistically significant relationship between enterprise resource planning and human resource management practices" is fully acceptable.

Testing the Third Hypothesis of the Relationship between Human Resource Management Practices and Organizational Performance

The correlation coefficient between human resource management practices was tested, including: (Training and Development, Information Exchange, Recruitment and Selection, Compensation and Benefits, Safety and Health, And Employee Relations) and financial performance. It was found that there is a positive correlation with statistical significance between training and development, information exchange, employment and selection, compensation and benefits, safety and health, employee relations, and financial performance, as the values of the correlation coefficient are 0.455, 0.510, 0.465, 0.445, 0.503, and 0.522. Respectively, and that the significance level is less than 0.05.

The correlation coefficient between human resource management practices was tested, including: (training and development, information exchange, recruitment and selection, compensation and benefits, safety and health, and employee relations) and internal operations. It was found that there is a positive statistically significant correlation between training and development, information exchange, recruitment and selection, compensation and benefits, safety and health, employee relations, and internal operations as the values of the correlation coefficient are 0.381, 0.467, 0.422, 0.439, 0.370, and 0.464 respectively and that the significance level is less than 0.05.

Table 6 shows the multiple regression model for human resource management practices, including (training and development, information exchange, recruitment and selection, compensation and benefits, safety and health, and employee relations) and their impact on the dependent variable, which is financial performance. The researcher found that there is a positive moral impact for both training and development, information exchange, safety and health, and employee relations on financial performance where the significance level values are less than 0.05 and the regression coefficient values are 0.201, 0.222, 0.198, and 0.208, respectively. While there is no significant effect for both Recruitment and selection, compensation and benefits on financial performance as the significance level values are greater than 0.05. Moreover, the value of R Square is 0.382, which means that 38.2% of financial performance can be explained through training and development, information exchange, safety and health, and employee relations.

In addition, Table 6 shows the multiple regression model for human resource management practices, including (training and development, information exchange, recruitment and selection, compensation and benefits, safety and health, and employee relations) and their impact on the dependent variable, which is internal operations. The researcher found that there is a positive moral impact for both training and development, information exchange, and employee relations on internal operations, where the significance level values are less than 0.05 and the regression coefficient values are 0.143, 0.181, and 0.115, respectively. While there is no significant effect for both recruitment and selection, compensation and benefits, Safety and health for internal operations as the significance level values are greater than 0.05. Moreover, its R Square value is 0.303, which means that 30.3% of internal operations can be explained through training and development, information exchange, and employee relations.

Table 6: Regression analysis of human resource management practices on financial performance and Internal Operations

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. | R Square |
|--|-----------------------------|------------|---------------------------|-------|------|----------|
| | B | Std. Error | Beta | | | |
| (Constant) | .422 | .244 | | 1.727 | .085 | .382 |
| Training and Development | .201 | .066 | .152 | 3.065 | .002 | |
| Information Exchange | .222 | .062 | .205 | 3.581 | .000 | |
| Recruitment and Selection | .075 | .071 | .067 | 1.044 | .297 | |
| Compensation and Benefits | .012 | .075 | .010 | .163 | .871 | |
| Safety and Health | .198 | .077 | .155 | 2.567 | .011 | |
| Employee Relations | .208 | .072 | .177 | 2.900 | .004 | |
| a. Dependent Variable: Financial Performance | | | | | | |
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
| | B | Std. Error | Beta | | | |
| (Constant) | 1.333 | .236 | | 5.656 | .000 | .303 |
| Training and Development | .143 | .063 | .119 | 2.263 | .024 | |
| Information Exchange | .181 | .060 | .183 | 3.020 | .003 | |
| Recruitment and Selection | .115 | .069 | .114 | 1.675 | .095 | |
| Compensation and Benefits | .133 | .073 | .115 | 1.831 | .068 | |
| Safety and Health | -.048 | .075 | -.041 | -.643 | .521 | |
| Employee Relations | .196 | .069 | .184 | 2.840 | .005 | |
| a. Dependent Variable: Internal Operations | | | | | | |

Based on the previous results, it can be seen that the first sub-hypothesis of the third hypothesis "There is a statistically significant relationship between human resource management practices and financial performance" is partially acceptable.

Based on the previous results, it can be seen that the second sub-hypothesis of the third hypothesis "There is a statistically significant relationship between human resource management practices and internal operations" is partially acceptable.

The correlation coefficient between human resource management practices was tested, including: (training and development, information exchange, recruitment and selection, compensation and benefits, safety and health, and employee relations) and learning and growth. It was found that there is a positive statistically significant correlation between training and development, information exchange, employment and selection, compensation and benefits, safety and health, employee relations, and learning and growth as the values of the correlation coefficient are 0.372, 0.544, 0.436, 0.503, 0.503, and 0.569. Respectively, and that the significance level is less than 0.05.

The correlation coefficient between human resource management practices was tested, including: (training and development, information exchange, recruitment and selection, compensation and benefits, safety and health, and employee relations) and customer satisfaction. It was found that there is a positive statistically significant correlation between training and development, information exchange, employment and selection, compensation and benefits, safety and health, employee relations, and customer

satisfaction, as the values of the correlation coefficient are 0.396, 0.416, 0.376, 0.408, 0.428, and 0.393. Respectively, and that the significance level is less than 0.05.

Table 7 shows the multiple regression model for human resource management practices, including (training and development, information exchange, recruitment and selection, compensation and benefits, safety and health, and employee relations) and their impact on the dependent variable, which is learning and growth. The researcher found that there is a positive moral impact for both information exchange, compensation, benefits, safety and health, and employee relations on learning and growth as the significance level values are less than 0.05, and the regression coefficient values are 0.318, 0.201, 0.178, and 0.309, respectively. While there is no significant effect for both of Training, development, recruitment and selection for learning and growth as the significance level values are greater than 0.05. Moreover, the value of R Square is 0.425, which means that 42.5% of learning and growth can be explained by information sharing, compensation and benefits, safety and health, and employee relations.

In addition, Table 7 shows the multiple regression model for human resource management practices, including (training and development, information exchange, recruitment and selection, compensation and benefits, safety and health, and employee relations) and their impact on the dependent variable, which is customer satisfaction. The researcher found that there is a positive moral impact for information exchange, compensation and benefits, safety and health on customer satisfaction, as the significance level values are less than 0.05 and the regression coefficient values are 0.171, 0.164, and 0.204, respectively. While there is no significant effect for both training and development, recruitment and selection, and relations between employees on customer satisfaction as the significance level values are greater than 0.05. Moreover, the R Square value is 0.270, which means that 27% of customer satisfaction can be explained by information sharing, compensation and benefits, and safety and health.

Table 7: Regression analysis of human resource management practices on learning, growth, and Customer Satisfaction

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
|--|-----------------------------|------------|---------------------------|--------|------|----------|
| | B | Std. Error | Beta | | | |
| (Constant) | .422 | .231 | | 1.825 | .069 | .425 |
| Training and Development | -.027 | .062 | -.021 | -.437 | .663 | |
| Information Exchange | .318 | .059 | .298 | 5.411 | .000 | |
| Recruitment and Selection | -.101 | .068 | -.092 | -1.487 | .138 | |
| Compensation and Benefits | .201 | .071 | .162 | 2.821 | .005 | |
| Safety and Health | .178 | .073 | .141 | 2.430 | .016 | |
| Employee Relations | .309 | .068 | .267 | 4.545 | .000 | |
| a. Dependent Variable: Learning and Growth | | | | | | |
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R Square |
| | B | Std. Error | Beta | | | |
| (Constant) | 1.206 | .234 | | 5.154 | .000 | .270 |
| Training and Development | .207 | .063 | .178 | 3.299 | .001 | |
| Information Exchange | .171 | .059 | .179 | 2.878 | .004 | |
| Recruitment and Selection | -.024 | .068 | -.025 | -.356 | .722 | |
| Compensation and Benefits | .164 | .072 | .147 | 2.278 | .023 | |
| Safety and Health | .204 | .074 | .180 | 2.754 | .006 | |
| Employee Relations | -.014 | .069 | -.014 | -.206 | .837 | |
| a. Dependent Variable: Customer Satisfaction | | | | | | |

Based on the previous results, it can be seen that the third sub-hypothesis of the third hypothesis "There is a statistically significant relationship between human resource management practices and learning and growth" is partially acceptable.

Based on the previous results, it can be seen that the fourth sub-hypothesis of the third hypothesis "There is a statistically significant relationship between human resource management practices and customer satisfaction" is partially acceptable. Based on these results, the third hypothesis "there is a

statistically significant relationship between human resource management practices and organizational performance through the balanced scorecard” is partially acceptable.

Testing the Fourth Hypothesis of the Role of Human Resource Management Practices in the Relationship Between Enterprise Resource Planning and Organizational Performance through the Balanced Scorecard

The multiple regression model test of human resource management practices on financial performance, and it was found that training and development, information exchange, safety and health, and employee relations could play the role of mediator between enterprise resource planning and financial performance because there is a direct relationship between them. Based on the results of the first hypothesis, it was found that there is a statistically significant relationship between enterprise resource planning and organizational performance through the balanced scorecard. The training and development were found to moderate the relationship between system use and financial performance in its entirety, while it partially mediates the relationship between information quality, system quality, and financial performance.

The information exchange was found to moderate the relationship between system use and financial performance in its entirety, while it partially moderates the relationship between information quality, system quality, and financial performance.

The safety and health were found to moderate the relationship between system use and financial performance in its entirety, while it moderates the relationship between information quality, system quality, and financial performance in part.

The employee relations were found to moderate the relationship between system use and financial performance as a whole, while it partially moderates the relationship between information quality, system quality, and financial performance.

The results of the multiple regression model test of human resource management practices on internal operations, and it has been shown that training and development, information exchange, and employee relations can play the role of mediator between enterprise resource planning and internal operations because there is a direct relationship between them. Based on the results of the first hypothesis, it was found that there is a statistically significant relationship between enterprise resource planning and organizational performance through the balanced scorecard. The training and development were found to moderate the relationship between system quality and internal operation in whole, while it partially mediates the relationship between information quality, system use, and internal operation.

The information exchange was found to moderate the relationship between information quality, system quality and internal operations in its entirety, while it partially moderates the relationship between system use and internal operations.

The information exchange was found to mediate the relationship between information quality, system quality and internal operations in its entirety, while it partially moderates the relationship between system use and internal operations.

The employee relations were found to moderate the relationship between system quality and internal operations in whole, while it partially moderates the relationship between information quality, system use, and internal operation.

The results of the multiple regression model test for human resource management practices on learning and growth, and it has been shown that information exchange, compensation and benefits, safety and health, and employee relations can play the role of mediator between enterprise resource planning and learning and growth because there is a direct relationship between them. Based on the results of the first hypothesis, it was found that there is a statistically significant relationship between enterprise resource planning and organizational performance through the balanced scorecard. The information exchange was found to moderate the relationship between information quality, system quality and learning and growth as a whole, while it partially mediates the relationship between system use, learning and growth.

The compensation and benefits partially was found to moderate the relationship between information quality, system quality, system use, and learning and growth.

The safety and health were found to moderate the relationship between system quality and learning and growth as a whole, while it partially moderates the relationship between information quality, system use, and learning and growth.

The relationships among employees were found to moderate the relationship between system quality and learning and growth as a whole, while it partially moderates the relationship between information quality, system use, and learning and growth.

The results of the multiple regression model test of human resource management practices on client satisfaction, and it has been shown that training and development, information exchange, compensation and benefits, and safety and health can play the mediating role between enterprise resource planning and customer satisfaction because of a direct relationship between them. Based on the results of the first hypothesis, it was found that there is a statistically significant relationship between enterprise resource planning and organizational performance through the balanced scorecard. The training and development were found to moderate the relationship between information quality and customer satisfaction in its entirety, while it mediates the relationship between system quality, system use, and partial customer satisfaction.

The information exchange was found to moderate the relationship between information quality and customer satisfaction as a whole, while it moderates the relationship between system quality, system use, and partially customer satisfaction.

The compensation and benefits were found to moderate the relationship between information quality and overall customer satisfaction, while it moderates the relationship between system quality, system use, and partial customer satisfaction.

The safety and health were found to moderate the relationship between information quality, system quality, and customer satisfaction in its entirety, while it moderates the relationship between system use and customer satisfaction in part.

Based on these results, the fourth hypothesis, "There is a statistically significant role for human resource management practices in the relationship between enterprise resource planning and organizational performance through the balanced scorecard" is partially acceptable.

Conclusion, Recommendation and Limitations

This study aims to examine the impact of enterprise resource planning (information quality, system quality, system use) and human resource management practices (training and development, information exchange, recruitment and testing, compensation and benefits, safety and health, employee relations) on organizational performance through the scorecard Balanced (financial performance, customer performance, supplier performance, employee performance). To test this goal, the researcher used the classical philosophy in this study and the inductive approach because they are more compatible with the nature of the research and with what the researcher wants to reach. Consequently, the data required to test the goal of the study was collected through the quantitative data issued from the questionnaire that was distributed to collect the required data by workers in the armature sector companies. Statistical methods such as: correlation and structural equation model will be used. Each of the measures of validity and reliability are also used, and the truthfulness and reliability of the data are intended as two important conditions that must be fulfilled and available to start using the available data to respond to the research hypotheses.

The recommendations of the current research are that the research should focus on other variables that affect the institutional performance. The research data was collected through a questionnaire distributed to workers in the rebar sector companies. This research contains many recommendations that may be useful for future research. First, a longitudinal study is recommended to achieve better results, as time was one of the barriers in this study. Future research could also look at companies other than armament companies. Future research will be able to have a better timeframe to be able to collect a larger sample as well as follow the technique of random sampling. More future research is needed to explore the role of the balanced scorecard and human resource management practices in order to gain a general understanding of the links between ERP and corporate performance. Finally, a comparative study can be made to compare the factors that affect institutional performance in developed and developing countries.

This research has several limitations through the study that I covered. First, despite the fact that the researcher collected data from armament companies only, the research was limited to taking into account more companies in other sectors. In addition, the second limitation of this research is the time limit to finish the research, which was a hindrance to collecting a larger sample size to represent the data under study. The third limitation was the small number of sample size used in the questionnaires collected, which pushed them to the blanket count method.

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A theoretical and analytical framework to the inquiry of sustainable land management practices

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Keywords

Driving forces; Farming system; Land degradation; Livelihoods; Sustainable use of farmlands.

Abstract

The purpose of this paper is to provide a theoretical and analytical framework by explaining the sustainable livelihoods framework and farming system model from a sustainable point of view. The author studied over 200 publications downloaded using the electronic database search of EBSCO through UNISA online library in June 2018. Keyword combinations of 'land', 'tenure' and 'sustainable use' were used to search for peer-reviewed journal articles published in English from January 1980 to May 2018. The article examines most relevant literature to consolidate the necessary theoretical and analytical foundation in analysing individual and group motivations towards sustainable land management practices. The literature review affirmed that a comprehensive theoretical and analytical framework is scant to empirically analyze the determinants of sustainable land management practices. To partially fill this knowledge gap, the paper provided a generic analytical framework that gives insight not only on pre-decisional processes, but also on post-decisional processes of continued and sustained use of conservation technologies. The analytical framework is developed by combining the sustainable livelihoods framework with the farming system model. It is concluded that the economic theory of property rights may not be adequate as a model to guide land tenure studies and policy. It is recommended that a holistic approach and comprehensive analytical framework is vital for research and development endeavours to ensure sustainable land management practices.

1. Introduction and Motivation

The purpose of this paper is to provide an analytical framework by explaining the sustainable livelihoods framework and farming system model from a sustainable point of view. This will form the basis to identify the variables and factors that determine sustainable use of farmlands. The majority of empirical literature reviewed focus on the constraints of adoption of conservation measures by farmers; and the conditions that influence sustained use of these measures after adoption are scarcely investigated. But we need to have a better understanding of the conditions that encourage sustained adoption to get an insight on the determinants of sustainable use of farmlands.

From an economic viewpoint, private property rights in land are normally seen as the more efficient institution to ensure sustainable land management practices. This is due to the occurrence of externalities in connection with open access and common property, and to the incentives which they create to sustainable resource extraction (Heltberg, 2002). Despite the absence of a universal land use policy applicable to sustainable agrarian development, there is a global wave towards formalizing rural land holdings (Atwood, 1990; Platteau, 1996; Heltberg, 2002; Fitzpatrick, 2006). These formal mechanisms to enforce individual property rights to farmlands have theoretically attractive tangible benefits to land-related investment, women empowerment, improved governance, reduced conflict, and lower transaction costs for efficiency-enhancing land transactions (Deininger et al, 2008). As Place (2009) notes a bulk of theoretical and empirical literature amplifies to the encouraging impact of secure property rights in land for sustainable land management practices.

The neoliberal development orthodoxy prescribes a suitable and stable property rights regime for sustainable land management practices, essentially on the grounds of a double-pronged effect. On the one hand, private property rights in land or land titling are considered 'capital' that induces further investment. On the other hand, they have a function in pre-empting potential discord and conflict between different tiers of land users/owners by specifying the rights and duties of those in each of the

levels. In view of this, a policy discourse of rural land titling programme has been aggressively implemented in various parts of the developing world to redress the problem of farmland degradation. However, the effect of land tenure security, which is expected to accrue from land titling programme, on sustainable land management is a contentious area in the literature. This is mainly because of the inconclusive empirical results that arise from methodological and contextual differences.

Moreover, the interaction between population growth, land degradation and agricultural intensification are most controversial issues of the developing world within the theoretical framework of sustainable development. In the contemporary debates of sustainable land management, the prominent schools of thoughts could be grouped into four theoretical models and arguments. These are the classical school, neo-Malthusian view, Boserup's model and the neoclassical model. Classical economists and neo-Malthusians hold a pessimistic view about the effects of population growth on the problems of land degradation. They agree with Malthus's thesis that presupposes population growth with the inevitable result of land degradation. On the other hand, the supporters of Boserup's thesis hold the most optimistic view about the effects of population growth on the problems of land degradation. The Boserup model contends that population growth is a major determinant of technological change in agriculture, leading to innovation, improved land care and thus induced intensification. The neoclassical model supports the thesis of both Malthus and Boserup. The model thus suggests that public policies and development interventions can influence sustainable use of farmlands depending on the dynamics of the local change process and the relative importance of key factors influencing sustainable farming practice.

The neoclassical theory of individualization places great emphasis on market driven property rights structure, and on ensuring the security and efficiency of land transactions but it overlooks important socioeconomic factors that affect how rural productive resources are accessed, used, and contested by individuals or households in support of their livelihoods. In view of this, the paper presents the sustainable livelihoods framework and the farming system model to consolidate the theoretical and analytical foundation to the inquiry of sustainable land management practices.

The author studied over 200 peer reviewed publications using the electronic database search of EBSCO through UNISA online library in June 2018. Keyword combinations of 'land', 'tenure' and 'sustainable use' were used to search for peer-reviewed journal articles published in English from January 1980 to May 2018. Given the limitations to present everything I studied, this article discusses the relevant literature to consolidate the necessary theoretical and analytical foundation in analysing individual and group motivations towards sustainable land management practices.

The paper has five sections, which are organized in the following manner. Section 2 examines the sustainable livelihoods framework that provides the main factors that affect people's livelihoods, and the interrelationships among these factors. Section 3 examines the farming system model that considered the interplay of factors internal and external to a given farming system. Section 4 presents the analytical framework proposed to identify variables and factors that determine sustained adoption of conservation investment for the sustainable use of farmlands. The last section provides a summary of main arguments along with the implications of the article.

2. The sustainable livelihood framework

Sustainable livelihoods approaches (SLAs) were developed in the 1980s by various development agencies and organizations and have been adopted, especially since the 1990s, by many as a framework for looking at development issues and addressing poverty (DFID, 2001; Messer & Townsley, 2003; Thomson, 2000). The Institute of Development Studies (IDS), Sussex, developed the first brand framework of sustainable livelihoods. The sustainable livelihood framework (SLF) provides the main factors that affect people's livelihoods, and the interrelationships among these factors. The framework can be used in planning new development initiatives, for impact assessment of existing activities on livelihood sustainability, and assessing the impact of policies on livelihood strategies and availability and access to assets by households (DFID, 2001; Ellis, 2000; Messer & Townsley, 2003; Thomson, 2000).

The SLF was further developed by DFID, building on earlier works of the IDS. According to DFID (2001), it consists of five key components, namely the vulnerability context, the five livelihood assets, transforming structures and processes (now commonly called policies, institutions and processes),

livelihood strategies and livelihood outcomes. Diagram 2.1 helps to depict the framework and the relationships between the different elements of the framework.

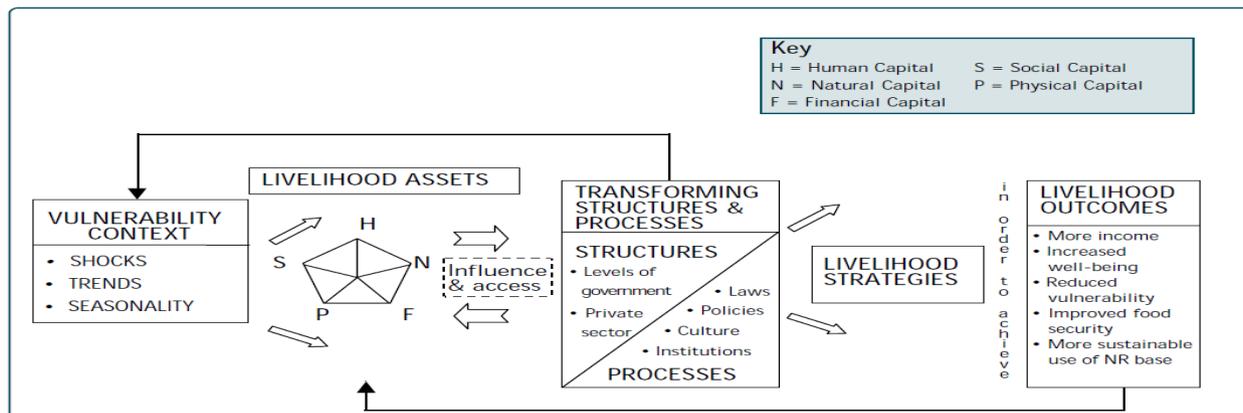


Diagram 2.1 Sustainable livelihood framework

Source: Sustainable Livelihoods Framework, Guidance Sheets, DFID 2001

2.1 Vulnerability context

In Diagram 2.1, households are shown to be pursuing their livelihoods in the context of vulnerability. The vulnerability context includes shocks (sudden onset of natural disasters, conflicts, economic traumas, health problems and crop or livestock distress), trends (in population, resources, health problems, the economy or governance) and seasonal constraints (cyclic fluctuations in prices, production, health and employment). This complex of influences has direct and indirect impacts on people's livelihoods, including the options available to them (DFID, 2001). The translation of a set of assets into a livelihood strategy, composed of a range of employment and income earning activities, is normally mediated by the contexts under which people and their portfolio of assets exist (Ellis, 2000). Trends, shocks and seasonality are factors over which people have limited or no control and these might have negative or positive impacts on the availability of assets and thus choice of livelihood activities and strategies (DFID, 2001; Ellis, 2000; Messer & Townsley, 2003; Thomson, 2000). Policies should be put in place in order to mitigate the negative impacts of the vulnerability context or to take advantage of windfall effects of such unprecedented circumstances (DFID, 2001; Ellis, 2000; Pasteur, 2001; Swift & Hamilton, 2001; Thomson, 2000).

2.2 Livelihood assets

In the SLA, resources are referred to as 'assets' or 'capitals' and are categorised into five asset types owned or accessed by family members: human capital (skills, education, health); physical capital (produced investment goods); financial capital (money, savings, loan access); natural capital (land, water, trees etc); and social capital (networks and associations) (Ellis & Allison, 2004). Although some asset types may cut across categories, the distinction is useful for analysis. Different assets have varying connections to the policy environment. For example, human capital connects to social policies (education and health), while natural capital connects to land use, agricultural and environmental policies (Ellis & Allison, 2004).

Ellis (2000) underlines that the assets owned, controlled, claimed or in some other means accessed by the household are the starting points of the SLF. As a people-centred approach, the SLA seeks to gain an accurate and realistic understanding of people's strengths (assets or capital endowments) and how these are converted into positive livelihood outcomes (DFID, 2001; Ellis, 2000). The wider availability of assets determines the range and mix of livelihood strategies to be adapted and adopted over time by a household, which results in a positive livelihood outcome (DFID, 2001; Ellis, 2000; Scoones, 1998; Thomson, 2000). The poor have limited access to capital assets, and their livelihood outcomes are more at risk since no single category of assets is sufficient to yield diversified livelihood outcomes. As a result,

they have to seek ways of nurturing and combining what assets they have, in innovative ways, to ensure their survival (DFID, 2001).

Some organisations, such as Concern Worldwide (CW), include political capital as a sixth dimension to an asset portfolio (CW, 2006). This is mainly from the understanding that people's participation in policies and the processes largely affects their livelihoods. Thus, policies that help poor people develop and maintain their asset base and diversify their livelihood strategies are essential to sustainable land management practices. To this end, the participation of the poor in the policy-making process largely determines the sustainable positive outcomes of land titling programmes.

2.3 Transforming structures and processes

The context of social, economic and policy considerations mediate the translation of assets into a livelihood strategy of income-earning activities (Ellis, 2000). Thus, while stressing the importance of capital assets in people's livelihoods, the SLA recognizes the role of transforming structures (government and private sector) and processes (policies, laws, rules and incentives) on people's livelihood options. These are important in defining access to assets, and people's livelihood strategies and therefore give meaning and value to livelihood assets (Carney, 1998; DFID, 2001; Scoones, 1998). The term 'transforming structures and processes' (TSPs) has now come to be called 'policies, institutions and processes' (PIPs). According to the DFID framework, TSPs are institutions, organisations, policies and legislation that shape livelihoods, and they operate at different levels (international, national, meso and micro levels), thus determining access to different assets, livelihood strategies, as well as the terms of exchange between different types of capital and returns to any given livelihood strategy (DFID, 2001).

Policies that are decided at the different tiers of the government affect how households make decisions or use available assets. The most common concern around policies and livelihoods is who makes the policies and what are the processes by which they are formed (DFID, 2001; Messer & Townsley, 2003; Pasteur, 2001; Shankland, 2000; Thomson, 2000). Groups of people who are not consulted about policy or are not represented in the mechanisms that lead to policy formulation have no way of influencing what policies are decided upon. As a result, they may be adversely affected by those policies. Messer and Townsley (2003, p.10) note that 'policies are particularly important for people concerned with improving household livelihoods because policies can be changed'.

Institutions are processes that include a wide range of 'arrangements' found in societies everywhere. These arrangements can be more or less organised (and may include organisations), structured or unstructured, visible or invisible (Messer & Townsley 2003). Carswell (1997) and Leach et al (1997), in Ellis (2000, p.10) describe institutions as 'regularized patterns of behaviour structured by rules that have widespread use in society'. North (1991) states that institutions are the rules of the game in the society or, more formally, the humanly devised constraints that shape human interaction.

Institutions may thus be formal and informal, often fluid and ambiguous, and usually subject to multiple interpretations by different actors. According to Scoones (1998, p.12), 'power relations' are embedded within institutional forms, making contestation over institutional practices, rules and norms important. Institutions are also dynamic, continually being shaped and reshaped over time. They are thus 'part of a process of social negotiation, rather than fixed objects or bounded social systems' (Scoones, 1998, p.12).

Social relations and institutions determine the way in which structures or organisations and individuals operate and interact. They comprise the agencies that constrain or facilitate the exercise of capabilities and choices by individuals or households, and they furnish the everyday framework, rules and relations for human interaction. Together, structures and processes are important mediating factors of livelihoods because they effectively determine access to public and private resources and terms of trade between types of livelihood assets (DFID, 2001; Ellis, 2000).

2.4 Livelihood strategies

In the past, development efforts were geared towards improving the services and opportunities available to the rural and urban people. With the emergence of SLA, a paradigm shift in thinking about rural and urban development materialized (DFID 2001; Ellis 2000; Messer & Townsley 2003). DFID (2001) argues that 'the SLA seeks to understand the factors that determined people's choice of a certain

livelihood strategy' and 'the livelihoods approach seeks to promote choice, opportunity and diversity' (DFID, 2001,p.28). According to the DFID (2001) framework, the options available to the poor are divided into natural resource based, non-natural resource based, and migration. This expansion of choice and value is important because it provides people with opportunities for self-determination and the flexibility to adapt over time. It is most likely to be achieved by improving poor people's access to assets and to make the structures and processes that 'transform' these into livelihood outcomes more responsive to their needs. This, among others, is promoted through the formulation and implementation of appropriate policies that contribute positively to people's livelihoods (Ellis, 1999; Ellis, 2000). Thus, a basic understanding of existing policies and how they influence people's livelihood strategies becomes imperative.

Livelihood strategies are the ways in which people combine and use assets to meet their objectives. They consist of activities that generate the means of household wellbeing. Ellis has divided livelihood strategies into two categories, natural resource-based activities and non-natural resource-based activities. Natural resource-based activities include harvesting wild resources from forests, cultivation of food or non-food crops, and livestock rearing. They also include non-farm activities like thatching, weaving, or brick making. Some examples of non-natural resource-based activities are rural trading, rural services, remittances and other transfers such as pensions. Livelihood strategies are dynamic, responding to changing challenges that households confront and to which they adapt (Ellis, 2000).

2.5 Livelihood outcomes

The dynamic interaction between the elements of the framework ultimately results in activities leading to certain livelihood outcomes in a given period. These are known to change over time because all the elements of the framework are dynamic. Unlike other approaches, the SLA 'seeks to recognize the diversity of livelihood goals which in turn will help to understand people's priorities, why they do what they do and where the major constraints lie' (DFID, 2001, p.31). According to the DFID framework, livelihood outcomes consist of, but are not limited to, more income, increased wellbeing, reduced vulnerability, improved food security and more sustainable use of the natural resource base.

The literature (e.g., Fernandes & Woodhouse, 2008; Reardon & Vosti, 1995; Scherr, 2000; Wannasai & Shrestha, 2007; Vilei, 2011) reveals that poor farmers' income and investment strategies are conditioned by a complex interplay of factors. To begin with, the prevailing driving forces associated with the context of vulnerability, shocks and transforming structures and institutions dictate the type and level of poverty in a certain locality. Second, subsistence agricultural production and resource conservation technologies depend on household assets endowments and require modification of technical rates of substitution among livelihood assets, especially between human-made assets and natural resources. Third, relative input prices, output prices, wages, and the interest rate affect farm resource use and investment incentives. Complementary 'hard infrastructure' (such as culverts, dams, wells, market facilities, and roads) and 'soft infrastructure' (such as extension, schools, and medical services) at village level affect the cost of transactions of inputs and outputs, and thus private costs of investment in resource conservation. Infrastructure also influences the development of non-farm activities, the commercialization of agriculture, and urban-rural links, which are important determinants of income opportunities for the poor. Fourth, community wealth (physical, cultural and social assets) mediates the poor household's options and natural resource conservation behaviour in multiple prongs.

The author shares the widely held view of many scholars (e.g., Besley, 1995; Deininger & Jin, 2006; Place, 2009; Smith, 2004) on the presence of a knowledge gap in the literature to improve one's understanding of farmers' investment decisions. Earlier studies (e.g., see Amsalu & de Graff, 2007; Bugri, 2008; Kabubo-Mariara, 2007; Marennya & Barrett, 2007; Pender & Gebremedhin, 2007; Shiferaw & Holden, 1998; Wannasai & Shrestha, 2007) note that farmers have multiple production objectives and, hence, their risk aversion behaviour may not be easily captured by a universal utility maximization model of economic theory. In addition, smallholders' decisions to adopt conservation technologies are mediated by several variables as farm households have a dual characteristic of production and consumption units (Shiferaw & Holden, 1999). An individual farmer's decision to implement conservation technologies is thus determined by the perpetual influences of the social world that are found in a given farming system (Beshah, 2003; Edwards, 1993; Van de Flier & Braun, 2002; Vilei, 2011). Edwards (1993, p.104) notes that

the movement towards research of a farming system emerged as a response to take into account the complex aspects of various farming systems before designing and introducing any development intervention. In view of this, the farming system model helps to analyse a number of contextual variables such as agro-ecological potential, context specific farming practices, market opportunities, policy implementation discourse, and population density to improve one's understanding of existing empirical results. This highlights the need to regard sustainable use of farmlands from a farming system model within the systems theory perspective, which is often overlooked in conventional development thinking and practice.

3. Farming system model

A farming system is conceptualized as a natural resource management model operated by the farm household, along with the engagement of household members in other socioeconomic activities, to ensure their physical survival, as well as their social and economic wellbeing (Vilei, 2011). The model considers the routines of farming practices along with the perpetual influences of the world outside the farm, such as off-farm employment opportunities, migration and education of children (Beshah, 2003; Edwards, 1993; Van de Flier & Braun, 2002; Vilei, 2011). A given farming system is thus shaped by the interplay of factors internal and external to the system.

Smallholders' adoption and sustained use of conservation technologies, which helps to ensure sustainable use of farmlands, is inherently mediated by several variables in a given farming system. It is more appropriate to treat sustainable land-use practices of smallholders as an outcome of a compromise among multiple variables in a given farming system (Amsalu & De Graaff, 2007; Bekele & Drake, 2003). The farming system perspective entered into the arena of systems thinking after the mid-1970s, when researchers began to appreciate the holistic nature of the farming system, which is full of highly interwoven factors (Beshah, 2003; Edwards, 1993; Van de Flier & Braun, 2002). The farming system perspective presupposes that an individual farmer will make an investment decision by weighing up the relevant elements contained in the farming system, which are characterized by complex relations and interconnections of technical domain, economic domain and the domain of social-organizational relationships (see Beshah, 2003:53; Leeuwis & Van den Ban, 2004: 62-64). Although the use of variables incorporated in these domains differs among scholars, previous studies have related farmers' decisions on conservation investment to a range of variables that are often classified as personal, physical, socioeconomic and institutional factors (eg see Amsalu & De Graff, 2007; Bekele & Drake, 2003; Bugri, 2008; Gebremedhin & Swinton, 2003; Kabubo-Mariara, 2007; Marenya & Barrett, 2007; Mekonnen, 2009; Pender & Gebremedhin, 2007; Pender & Kerr, 1998; Shiferaw & Holden, 1998; Wannasai & Shrestha, 2007).

The farming system model is particularly useful for the inquiry of sustainable land management practices for two reasons. First, it provides concepts and models for describing and analysing endogenous and exogenous variables that affect sustainable land management practices in a given context. Secondly, it provides a broader framework for investigating and analysing the dynamic feedback of social actors because of changes in organizing principles and rules that mediate an individual farmer's perceptions of sustainable land management practices. Diagram 3.2 below shows the selected farming model used for apparent discussion.

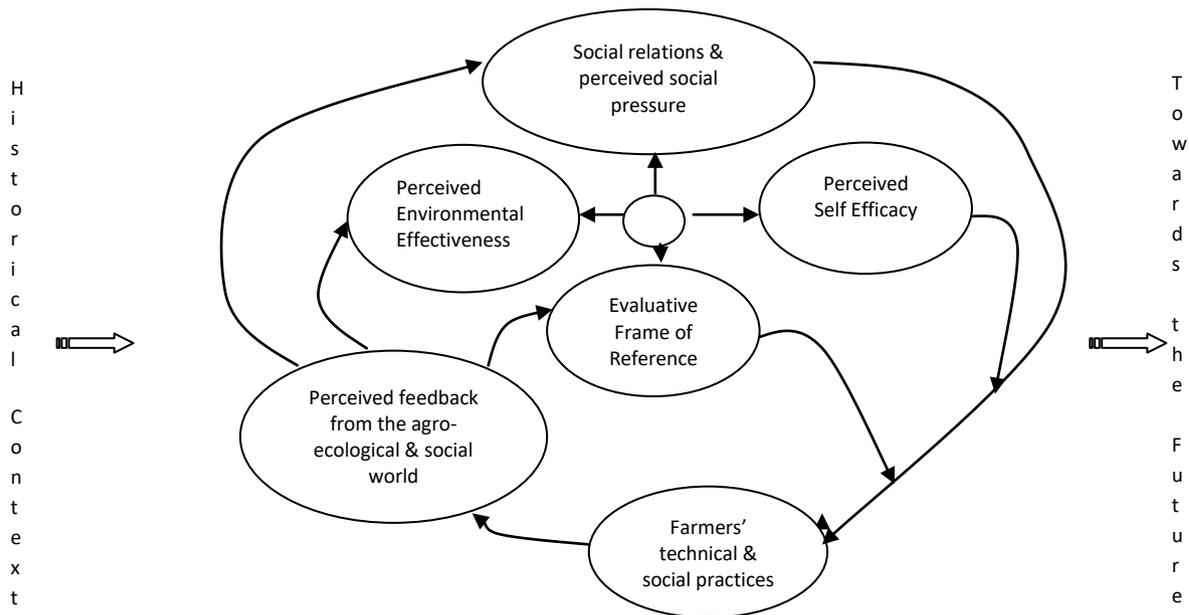


Diagram 3.2 Farming System Model
Source: Leeuwis and Van den Ban 2004:66

Leeuwis and Van den Ban (2004: 66-86) introduced a comprehensive farming system model that helps to visualize important variables that may shape an individual farmer's practices and/or responses towards sustainable use of farmlands. In this model, they contend that evaluative frame of reference, perceived environmental effectiveness, perceived self-efficacy, social relations and perceived social pressure shapes farmers' technical and social practices. This circular model also shows that seasonal farming practices consider the dynamic feedback coming from the practices of social actors. This feedback is always perpetual in nature having a continuous motion that regards the diverse feedbacks coming at different levels and domains of the farming system on the spectrum of time. That is, even if actors are not deliberately seeking feedback, they are always in what is termed as 'reflective monitoring of action' (Giddens, 1984,p.5, in Leeuwis & Van den Ban, 2004,p.81).

The essence of this comprehensive farming system model, which is represented in Diagram 3.2 above, is that an individual farmer's decision on conservation investment is shaped by not only a single perception of tenure security, but also by a careful balance of numerous considerations and tradeoffs. To begin with, the knowledge and beliefs of farmers can originate from various sources, such as local, external, scientific and mutual knowledge. Their 'evaluative frame of reference' is closely related to their knowledge and mode of reasoning about the natural, economic and social world. This overall inclination towards specific farming practice, which is simply termed as 'attitude' by social psychologists, is a result of multiple variables associated with perceived technical and socioeconomic benefits, risk perceptions, and valuation of risks and consequences. Their perceptions about the likelihood of technical, economic, and socio-organizational risks are valued with respect to a set of aspirations. The major sets of aspirations, which assumes different order of importance across the spectrum of time and space, comprise technical (economic), relational (political), cultural and emotional goals and interests of individual actors (Leeuwis & Van den Ban, 2004, p.67-71).

In addition, the notion of 'perceived environmental effectiveness' in the farming system model implies that an individual farmer's decision on conservation investment is shaped by his or her level of trust in the functioning of the social environment. Especially, by his or her perceptions associated with the effectiveness of those existing agro-support networks and intercommunity organizations. An individual farmer's confidence in his or her ability, which is termed as 'perceived self-efficacy' in Diagram 3.2, may also be a hurdle to adoption of beneficial conservation technologies when he/she thinks that he/she cannot properly or realistically apply them (Leeuwis & Van den Ban, 2004,p.69).

Moreover, the notion of 'social relations and perceived social pressure' in Diagram 3.2 implies that farmers' practices are shaped by both direct and indirect pressures they experience from other actors with whom they relate and/or associate. These actors include spouses, children, relatives, village leaders, donors, government agencies, extension workers, agro-industry, and politicians. The pressure and influence of these actors or agencies largely originates from their evaluative frame of reference that in turn value costs and benefits with respect to their aspirations. The aspirations of these actors range from a strong intension to maintain power relations, a desire to meet national economic needs, or a wish to maintain cultural norms and values (Leeuwis & Van den Ban, 2004, p.71-79).

Therefore, the essence of the farming systems model is that an individual farmer's 'cognitive system' is made up of a complex and dynamic web of interrelated perceptions. The model has a dynamic nature compared to the economic theory of property rights in explaining an individual farmer's land management practices. It indicates that a large variety of cultural, technical, economic and relational aspirations and preferences has a role in shaping an individual farmer's land management practices. Thus, it presupposes that there are different ways of doing things right in a given farming system in contrast with the economic theory of property rights that sees the individual as the only actor who is potentially capable of undertaking sustainable land management practices over which he had private property rights. The economic theory of property rights fundamentally presupposes that there exists only one rationally optimal way of allocating production means and organizing sustainable land management practices.

The SLF of DFID covers the full diversity and richness of livelihoods and associated dynamic effects of 'driving forces' on the environmental degradation. The framework acknowledges that driving forces to context specific farming practice ('response') are various social, economic and political forces as well as 'natural' factors. In simple terms, it considers 'response' of a given farming behaviour or livelihood strategies as the outcome of not only farmers' (resource users) decisions at the local level but also changes in legislation and policy at the level of the national government. The five categories of livelihood assets (natural, physical, social, financial and human capitals) within the SLF clearly correspond to a particular environmental condition or 'state'. It then suggests that a 'response' to a particular environmental condition or 'state' becomes a 'driving force' that will influence future conditions of environmental state in a circular flow. The indicators of the 'state' or components of livelihood assets thus have an important implication for the outcomes of existing 'driving forces' and also the effectiveness of current 'response' (see Fernandes & Woodhouse, 2008,p.245-246). Moreover, the livelihood assets, which could be termed as stock of capitals in the economic jargon, cover the important social, economic and ecological aspects of sustainable development emphasized by the Brundtland model.

4. Analytical framework proposed

The author combined the sustainable livelihood framework developed by DFID (2001) and the farming system model of Leeuwis and Van den Ban (2004) to present a generic analytical framework for context specific inquiry. The SLF asserts that the prevailing external environment that mediates the status of livelihood assets at household level dictates land users' livelihood strategies, thereby their behaviour towards dynamic farming practices over time (see section 2). The farming system model also articulates that an individual farmer makes a decision on sustainable land management practice by weighing up the complex relations and interconnections of technical domain, economic domain and the domain of social-organizational relationships (see section 3).

The various socioeconomic, cultural and institutional, as well as biophysical and technical factors that could potentially affect the sustainable use of farmlands, are also discussed and analysed with the aid of

the analytical framework presented in this section. Diagram 3.3 below shows a basic sketch of the analytical framework suggested by the author.

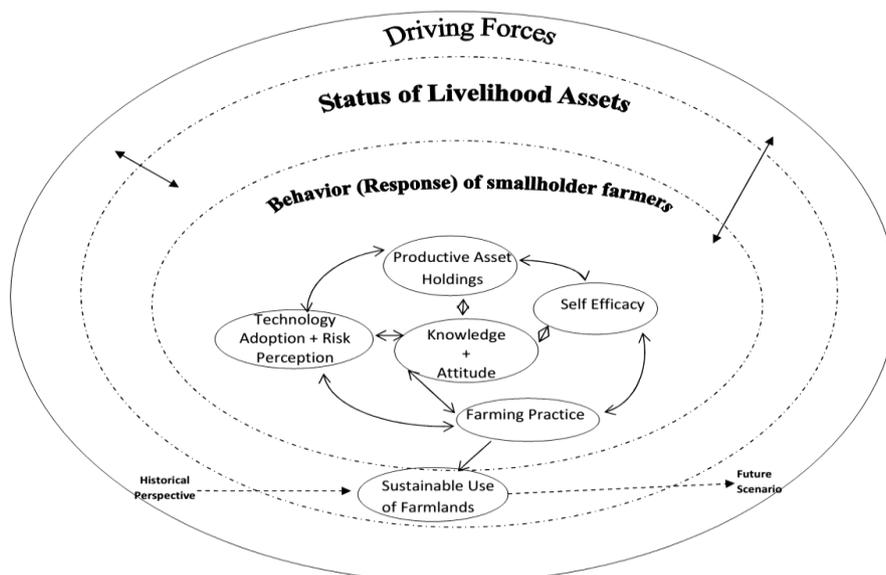


Diagram 3.3 Analytical framework suggested for empirical work

Source: Own hybrid

The analytical framework presented in Diagram 3.3 above, based on the SLF and the farming system model, makes certain assumptions:

The behaviour (response) of smallholders towards a particular farming practice in a given period depends upon their productive asset endowments, self-efficacy, knowledge and attitude, and technology adoption and risk perception (see the inner circle).

These determinants of smallholders' behaviour in turn are mediated by driving forces that allocate productive resources among farm households (see a double-headed arrow that connects the inner circle with the outer circle).

The initial farming practice would become a driving force to the next production period through its effect on the status of livelihood assets available to farm households (see a double-headed arrow that connects the middle circle with the outer circle). That is, the outcome of the current farming practice determines the status of farmland available to farm households, which in turn becomes a driving force to the next production period. If the outcome of current farming practice results in the proper use of farmlands, it would become a positive driving force since it enhances the status of livelihood assets available to the next production period. If the outcome of current farming practice results in degradation of farmlands, it would become an adverse driving force as it depletes the status of livelihood assets available to the next production period. The single-headed arrow that connects 'farming practice' with 'sustainable use of farmlands' shows a cause-effect relationship between farming practice and driving forces. Thus, farmland is assumed to be the most important productive asset possessed by farm households, which dictates the status of other productive asset endowments.

Driving forces considered in the analytical framework comprise three aspects: i) the vulnerability context associated with demography and land degradation; ii) shocks associated with droughts, flood, pest and diseases; and iii) transforming structures and processes found at various spatial levels, such as laws, policies and institutions that allocate means of production and distribution of outputs. The analytical framework also considered five types of livelihood assets or capitals such as natural, physical, social, human and financial capitals discussed in SLF. These five capitals are considered since they determine the productive asset endowments, self-efficacy, knowledge and attitude, and technology adoption and risk perception of farm households.

Diagram 3.3 shows that driving forces of the external environment shape livelihood strategies of smallholders, and thereby their behaviour to particular farming practices across space and time. The inner circle of the diagram also shows the synergy of multiple variables that shape the initial farming practices of an individual farmer. The variables included in the inner circle were based on the theoretical propositions discussed in the farming system model. The diagram also illustrated that an individual farmer's farming practice determines the status of renewable natural capital (farmlands) on which his or her livelihood depends. The status of this livelihood asset along with other forms of capital, determines his or her productive asset holdings (see a single-headed arrow that connects farming practice with sustainable use of farmlands included at the middle circle). The middle circle traces the status of current livelihood assets that are expected to have a dynamic synergy with the driving forces (see a double-headed arrow that connects the middle and outer circles). The diagram finally shows that the initial farming practice becomes a driving force that shapes an individual farmer's experiential learning or his or her sustainable land management practices. The expected synergies are shown in the analytical framework using double-headed arrows that link status of livelihood assets with driving forces, driving forces with the behaviour (response) of an individual farmer, and among variables assumed to mediate the behaviour (response) of an individual farmer. The analytical framework also uses broken arrows to show the expected linkages between past (historical perspective of) driving forces and the outcome of current farming practice (concept of 'sustainable use of farmlands'), as well as the linkages between anticipated outcome of current farming practice and the future scenario of driving forces.

The analytical framework helps us to understand not only the pre-decisional processes, but also the post-decisional processes of continued and sustained use of conservation technologies. The pre-decisional processes are illustrated by the inner circle, which assumes the determinants of smallholders' behaviour (response) towards a particular farming practice. A single-headed arrow connecting farming practice with sustainable use of farmlands, and a double-headed arrow connecting the middle circle with the outer circle illustrate the post-decisional processes. The analytical framework also tried to connect the microeconomic behaviour of smallholders with the macroeconomic institutional support systems provided to the farming community. This framework considers the various socioeconomic, cultural and institutional factors, as well as biophysical and technical factors that could potentially affect the sustainable use of farmlands in the context of the study area.

5. Conclusion and Implications

This paper is an outcome of the observed mixed and inconclusive empirical literature on the role of land tenure security on sustainable land management, observed evidence of multiple variables that mediate farmers' decision on conservation investment, and contemporary debates of sustainable land management. The role of the economic theory of property rights about land tenure reform in sub-Saharan Africa was assessed and its adequacy as a model to guide land tenure studies and policy was found limited.

A major concern of scholars interested in African land tenure and agricultural development has been the lack of empirical evidence in support of the theoretical benefits of land tenure security accrued from a formally registered land title. This concern has given rise to quantitative studies based on survey research and econometric analysis by the grant obtained from the World Bank and the Land Tenure Centre (LTC) in most cases. The main objective of these studies was to analyse the extent to which expected outcomes of perception of land tenure security on farm productivity and land-related investment. Analysis of data was based on a theoretical model relating perception of land tenure security to farm productivity (Feder et al, 1988), and a mathematical model used to analyse the investment-enhancing effects of security of land tenure (Besley, 1995). Nevertheless, the theory of property rights cannot assess the adequacy of land tenure security on sustainable farming practice in African rural situations on economic considerations alone. It emphasizes market-driven property rights, and ensuring the security and efficiency of land transactions, but overlooks important socioeconomic factors that affect how rural productive resources are accessed, used, and contested by individuals or households in support of their livelihoods.

The context of this article should be seen as the emerging discourse of careful empirical investigation in examining the links between land rights, conservation investment and sustainable land use. In view of this, the author examined relevant literature to consolidate the necessary theoretical and analytical

foundation in analysing individual and group motivations towards sustainable land management practices. The author examined the SLF framework provided by DFID (2001). The SLF presented in the article seeks to understand the dynamic relationship among the vulnerability context, livelihood assets, transforming structures and processes, livelihood strategies and livelihood outcomes. It thus sees farmers' motivations towards sustainable land management practices as the outcome not only of farmers' (resource users) decisions at local level, but also dynamic changes in the vulnerability context, status of livelihood assets possessed and changes in legislation and policy at the level of the national government.

In addition, the article examined the farming system model developed by Leeuwis and Van den Ban (2004). This comprehensive farming system model asserts that knowledge and perceptions are not neutral but are subject to social influences and related to social interest. It thus presupposes that the learning process of individual farmers is always changing with the deliberateness and consciousness dynamism of the social environment. In line with this, the article examined the theoretical propositions of indigenous knowledge and social learning to show the silent determinants of farmers' decisions on conservation investment. The dynamism of various variables in a given farming system implies that a rational and optimal decision of last year's conservation investment may not be rational and optimal this year to the same individual, let alone to other individuals.

The major shortcoming of this article is failure to accommodate the diverse brands of farming system models and SLF available in the literature. In addition, the article has considered limited number of peer reviewed literature published only in English language using keyword combinations of 'land', 'tenure' and 'sustainable use'.

The author provided a generic analytical framework that helps to gain insight not only on pre-decisional processes, but also on post-decisional processes of continued and sustained use of conservation technologies. The analytical framework is developed by combining the SLF with the farming system model. A holistic approach and comprehensive analytical framework are suggested to properly understand the synergy of the variables and factors that affect the sustainable use of farmlands across space and time. It is thus recommended that adopting these methodological and theoretical considerations in both qualitative and quantitative research could help to improve one's understanding of the relationship between security of land tenure and sustainable use of farmlands.

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Supply chain management practices, innovation capabilities and operational performance: Empirical evidence from the FMCG sector

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Keywords

SCMP, Innovation Capabilities, Operational Performance, FMCG.

Abstract

The purpose of this paper is to propose a conceptual framework for examining the impact of innovation and supply chain management practices on operational performance of FMCG organizations within the Middle East and North Africa Region. The quantitative data is collected through 519 questionnaires as the research population refers to Henkel across the Middle East and North Africa. Structural Equation Modelling (SEM) is adopted to examine the causal relationships between' supply chain management practices, innovation capabilities and operational performance. The findings of this paper reveal that Supply chain management practices have a positive influence on operational performance. Supply chain management practices have a positive influence on innovation capabilities. The direct effect between innovation capabilities and operational performance is statistically significant. However, the results of the mediation effect indicate that there is partial mediation effect of the innovation capabilities between supply chain management practices and operational performance.

Introduction

Innovation is considered a key factor in business performance (Panayides and Venus Lun, 2010). One approach to innovate is to think of one's customers, suppliers, and more commonly one's partners. For an organization, this alludes the management of its inter-organizational relationships. Away from the traditional sight of technological and product innovation, organizations need to develop "managerial" innovations. Such innovations can be a significant source of competitiveness for organizations (Birkinshaw et al., 2008). Damanpour and Aravind (2012) recommend investigation of external conditions and internal processes that facilitate the introduction of compositions of innovation types across organizational units and over time.

Fast-Moving Consumer Goods (FMCGs) supply chains produce innovative ideas and perform as benchmarked frameworks for other industries, because of their high capacities of product flows, close communication with their customers, less multifaceted manufacturing processes besides the dominance of retailers (to some extent). Nevertheless, a very complex underlying supply chain system supports this industry. Despite the innovative ideas engendered, FMCG supply chains are faced with exceptional challenges and issues (Kumar, 2002). FMCG industry is a speedy, agile industry with an extensive range of products (ibid).

Due to Roy and Wilkinson (2004) innovative supply chain concentrates on persistent improvement of the supply chain cost structure throughout standardization and simplification. This lowers materials costs and improves customer satisfaction. With innovative supply chain, a company can collaborate with business partners throughout integration of data and processes. This improves information sharing and hence minimizes communication costs leading to superior decision making. This enables the company create alignment around common business objectives that conceive new tools, methodologies, and

processes to advance efficiency and performance of the company. Batenburg and Rutten (2003) elaborated that innovative supply chain practices ensures continuous development of supply chain functions in which leads to competitive advantage and differentiation of products as well as services to meet the rising and changing needs of customers.

Moreover, if there are long-term market changes, efficiency of SC is not easily achieved. Therefore, a corporate must have innovation capabilities to implement the appropriate strategies needed for uncertain altering environments (Liao et al., 2010). Based on the above, the overall aim of this thesis is to make generalized assumptions about the impact of innovation and supply chain management practices on operational performance of FMCG organizations within the Middle East and North Africa Region. In order to fill the knowledge gap and achieve the aim, four objectives were formulated namely:

1- To examine the relationship between supply chain management practices and operational Performance of FMCGs.

2- To investigate the relationship between supply chain management practices and innovation Capabilities of FMCGs.

3- To examine the relationship between innovation capabilities and operational Performance of FMCGs.

4- To investigate the mediation role of innovation capabilities between supply chain management practices and operational Performance of FMCGs.

2. Literature Review

Supply Chain Management Practices (SCMP)

Lavastre et al., (2011, 2014) defined innovative supply chain practices as :*“The development and implementation of tools and methodologies by and between partners of the same supply chain, that do not previously exist within the company or its subsidiaries, and which aim to address a variety of issues related to quality, cost and timeliness These practices are generally part of a policy of continuous improvement and value creation for the customer, and increased company and entire supply chain performance”* . A 2005 OECD report highlighted the need to investigate organizational innovations for two main reasons: On one hand, they frequently convoy product and / or technology innovations. On the other hand, they are enhanced to create a competitive advantage that is easily defensible, durable, or hard to imitate by competitors (Leroy et al., 2013). In addition to that, the report recommended conducting study to characterize this type of innovation, but also to assess its economic impact on businesses.

The deployment context of an SCMP is crucial. Indeed, unlike an invention in which it refers to the creation of something new, innovation is the financial and economic translation of an invention. Therefore, it requires a transformation and appropriation by the firm that must encompass the innovation in its organization and strategy, also match market expectations (Lin et al., 2010). The literature of this topic, however, remains relatively limited and fragmented and some researchers lament those investigations in the field of logistics and SCMP largely disregard the concept of innovation (Flint et al., 2005). From this viewpoint, there is a crucial need for studying innovation in inter-organizational practices throughout questioning information systems (Bello et al., 2004), expected benefits (Wagner, 2010) and collaborative relations between supply chain partners (Soosay et al., 2008). Despite the fact that many measurement scales have been developed in the region of innovation and SCM, relatively few have investigated innovative practices in this domain. Flint et al. (2005, 2008) presented a measuring instrument issued from the literature to investigate the process of innovation in the downstream supply chain. Knight and Cavusgil (2004) examined the capacity in a company for product innovation at the research and development (R&D) level.

The researcher subscribes to this sight and propose completing knowledge within the field of innovation via questioning innovative supply chain practices in the domain of SCM. In addition to that, the literature review conducted for this research study concentrated on the concept of innovation applied to the field of SCM innovation and particularly in Fast Moving Consumer Goods (FMCG). There are various innovative supply chain management practices used by firms to gain competitiveness in terms of improved customer satisfaction and cost effectiveness, hence improve the operational performance. These practices include mass customization, e-procurement, integration, reverse logistics and just in time.

Mass Customization: Mehra and Inman (2014) emphasized that customization is an innovative supply chain practice that involves tailoring products and services due to the specific customer needs. The systems aggregate such type of individual orders along with schedules picking, assembly or production. This improves efficiency ever since the customers can conveniently get goods and services that suits their needs. Dowlatshahi (2012) asserted that mass customization is a common practice amid the developed countries, customer desires keep on changing hence it is crucial for the companies to cope with the market demand. This can be achieved throughout producing and designing competitive products that meet the subsequent attributes namely: flexibility, cost effectiveness convenience, and improved value. Various benefits of mass customization are that it decreases stock-out costs and holding costs of the company since products are produced upon requisition by customers.

E-procurement: E-procurement is the usage of internet-based information communication technologies (ICTs) to perform individual or all stages of procurement process encompassing sourcing, ordering, negotiation, receipt as well as post purchase review (Croom and Brandon-Jones, 2004). There are a variety of forms of e-procurement that focus on many stages of procurement process such as e-tendering, reverse auction, e-marketplace, and e-catalogue purchasing. In addition to that E-procurement serves what is called end-to-end solution that integrates and streamlines lots of procurement processes throughout the firm. Robinson (1999) mentioned in Shalakh, (2015) identified the significance of e-procurement in improved efficiency, cost saving, and single data entry. The use of e-procurement system makes it possible to monitor and measure orders along with their details for instance: removal of non-value adding activities and improved standardization of processes. This also minimizes the paperwork and improves efficiency within order approval and processing of documents.

Integration: One of the information systems that helps firms to integrate their functions and activities encompass: Electronic Data Interchange (EDI) which is a system that integrates business processes therefore provide long-term client and supplier relationships a true spirit of partnership. Watson and Zhang (2005) argued that an ERP package is a database which allows a firm to develop and store data that can be utilized in all the applications. This advances information sharing crosswise the supply chain partners as well as minimizes communication costs leading to improved supply chain operational performance.

Just in Time: Mehra and Inman (2014) defined just-in-time (JIT) as an operating concept deliberated to eliminate waste. The objective for JIT is to produce products and services without wastage. This is achieved by experimenting each step in a process to find out if it adds value to the product or to the service. Song and Zipkin (2011) explained that JIT system enables companies to operate efficiently with the lowest number of resources, consequently, minimize inventory levels, improve quality, and provide greatest motivation to solve problems where and when they take place. Other benefits of this concept are that it minimizes the cycle time while products are produced upon the requisition of the customer. This augment cost savings and competitiveness since customers get the precise product in terms of quality, quantity, and value based on their needs.

Reverse Logistics: Reverse logistics is part of the innovative supply chain practices that aids companies in costs savings throughout use of environmentally friendly products which need minimal processing compared to mechanize a completely new product. Jack et al. (2010) explained that reverse logistics enables the company to improve its agility. Some companies grasp more inventories compared to the market demand. If they can swiftly disposition this material, and possibly even accept some of its cost back, their ability to be doing well in the marketplace enlarges.

2.2 Innovation Capabilities

There has been an increasing interest in the study of innovation capability in supply chain context in recent times (Delbufalo et al., 2015; Iddris et al., 2014). Innovation capability in this research encompasses three dimensions namely: Dynamic Capability, Knowledge Capability and collaborative capability.

Dynamic Capability (DC)

The concept of Dynamic Capability (DC) was first presented by Teece et al. (1997), it has received a wide-ranging of attention, and mostly been used for clearing up how firms gain competitive advantage throughout the dynamic market environment. Jiang (2011) believed that SCDC is the change of the

capability of supply chains by extending the DC from single organizations to the supply chain. Pagell and Wu (2009) proposed that resource renovation and integration refers to the change of process connection, original organization and business field to adjust to the dynamic change of environment. Regarding the measures of SCDC, Jiang (2011) also stated that SCDC includes: learning capability, coordination capability, operation capability, and reconstruction capability. Wu (2010) measured the SCDC from three dimensions: learning capabilities, Resource integration capabilities, and resource reconstruction capabilities. Similarly, Caloghirou et al. (2004) measured the SCDC from another three dimensions: coordination ability, learning ability, and change ability (Shan et al, 2020).

Knowledge Capability

knowledge is compatible with the conventional definition and includes diverse kinds of knowledge for instance, explicit and tacit knowledge, information as well as knowhow of the management, technological, and marketing knowledge. Three sub capabilities: Knowledge Acquisition Capability (KAC), Knowledge Generation Capability (KGC), and Knowledge Combination Capability (KCC) characterize the three dimensions of knowledge-based capabilities.

KAC. Knowledge acquisition means the organization's ability to identify and acquire practical external knowledge. The knowledge of organization exists in two special forms: explicit and tacit knowledge (Kogut and Zander, 1992). Therefore, efforts spent on knowledge acquisition encompass creative searching and strategic sense-making also were greatly prejudiced by manager's logic pattern and behavior (Pandza and Thorpe, 2009).

KGC. Generation denotes a firm's capability to develop and refine processes that facilitate generating new knowledge. The processes include internal R&D and knowledge creation throughout external venturing (Wadhwa and Kotha, 2006). Rosenberg (1982) pointed out very early in his classical research that "reliance on borrowed technology (by developing countries) perpetuates a posture of dependency and passivity", catching-up corporations without KGC have experienced the "acquisition-lag out-acquisition" in countless later comer economies (Rosenberg, 1982).

KCC. Combination capability is the firm's talent to integrate and apply internal along with external knowledge. Kogut and Zander (1992) suggested that organizations learn new skills by recombining their existing capabilities. As discussed above, the three dimensions work together. They tend to be path dependent, develop cumulatively, and build on each other to figure integrated dynamic capabilities of the company.

Collaborative Capabilities

Delbufalo et al. (2015) focused on the contribution of supply network to a focal organization's competitiveness by investigating the relationship among supply network structure and collaborative capability. Tan et al. (2015) explored the use of big data for instance: tweets, click stream, videos, and other unstructured sources - to enhance supply chain innovation collaborative capability. They proposed analytical infrastructure for serving supply chains gather big data in order to enhance collaborative capability. Shan et al. (2020) studied the impact of SC collaborative innovation on the sustainable development. The results showed that: (1) Three modes of SC collaborative innovation namely: (management collaborative innovation, technology collaborative innovation, and market collaborative innovation) and they have different effects on SCDC and performance. (2) SCDC mediates the relation between collaborative innovation and performance. (3) SC technology collaborative innovation has the greatest impact on performance.

2.3 Operational Performance

The performance can be defined as "A set of metrics used to quantify the efficiency and effectiveness of supply chain processes and relationships, spanning multiple organizational functions and multiple firms and enabling supply chain orchestration" (Maestrini et al., 2017). The main objective of every organization is to enhance the performance but firstly they should find a measurement tool to measure it accurately (Gunasekaran and Kobu, 2007). Gunasekaran et al. (2004) illustrated a comprehensive framework for performance measurement divided into strategic, tactical in addition to operational processes. Six categories encompassed namely: metrics for order planning; measures and metrics at production level; evaluation of supply link; measuring customer service and satisfaction; evaluation of delivery link; and

supply chain and logistics. Panayides and Lun (2010) recognized delivery reliability, lead times, responsiveness, cost reduction, conformance to specifications and process improvements in addition to time-to-markets as constituents of Supply Chain Performance (Shan et al., 2020).

2.4 The relationship between Supply Chain Management Practices and Operational Performance

The relationships that company develop with their suppliers and customers can eventually be considered as competitive tools which contribute to enhanced organizational performance. In this context, Huang and Liu (2014) examined the relation between supply chain integration and supplier's performance of manufacturing companies. Findings revealed that the adoption of modern technologies led to superior organizational performance. Due to Roy and Wilkinson (2004) innovative supply chain concentrates on relentless improvement of the supply chain cost structure throughout standardization and simplification. This lowers materials costs and improves customer satisfaction. Batenburg and Rutten (2003) elaborated that innovative supply chain practices ensures continuous development of supply chain functions in which leads to competitive advantage and differentiation of products as well as services to meet the rising and changing needs of customers.

2.5 The relationship between Supply Chain Management Practices and Innovation Capabilities

Supply Chain Innovation Capabilities describes the intra and inter-organizational competence within a SC to cooperate, in order to identify, develop, and implement innovative, solution-oriented actions so as to address new or formerly unsolved problems (Storer et al., 2007). Due to Savory (2006) supply chains do not only need to reconfigure current capabilities and resources, but they must also give up old configurations in implementing the newly reconfigure capabilities. To understand the relationships between innovation capabilities and innovative practices, it is significant to recognize what Prieto and Easterby-Smith (2006) observed as the link between knowledge and dynamic capabilities. They preserved that the dynamic capabilities that enable also underpin long-term continuing renewal require both exploitation of current knowledge and exploration of "new knowledge-based competences". New knowledge and technologies, in addition to existing knowledge and technologies, after a while translate into meaningful practices, operational processes, and systems.

2.6 The relationship between Innovation Capabilities and Operational Performance

Supply chain integration and performance are topics that have been extremely researched and various studies showed that there is a positive relationship between both of them (Devaraj et al., 2007 and Wong et al., 2011). Short-term supply and demand imbalances could have a negative effect on SC efficacy. Moreover, if there are long-term market changes then, the efficiency of SC is not easily achieved. Therefore, a company must have innovation capabilities to implement the appropriate strategies needed for uncertain altering environments (Liao et al., 2010).

In order to enhance SC innovation capabilities, a company has to develop a responsive SC throughout increased collaboration with other firms in supply chains (Kim and Lee, 2010). The dynamic capabilities theory was applied to SC mainly concentrated on the bullwhip effect that gained from the lack of information sharing amongst companies in the supply chain. likewise, to supply chain innovation capabilities, successful companies create supply chains that are: adaptable, agile, and aligned, which is termed Triple-A of SC by Lee (2004). An organization implementing Triple-A SC responds to altering markets, coordinates business processes through sharing information, risks as well as benefits, and enhances competitiveness of SC partners on top of improving the operational performance.

3. Research Framework

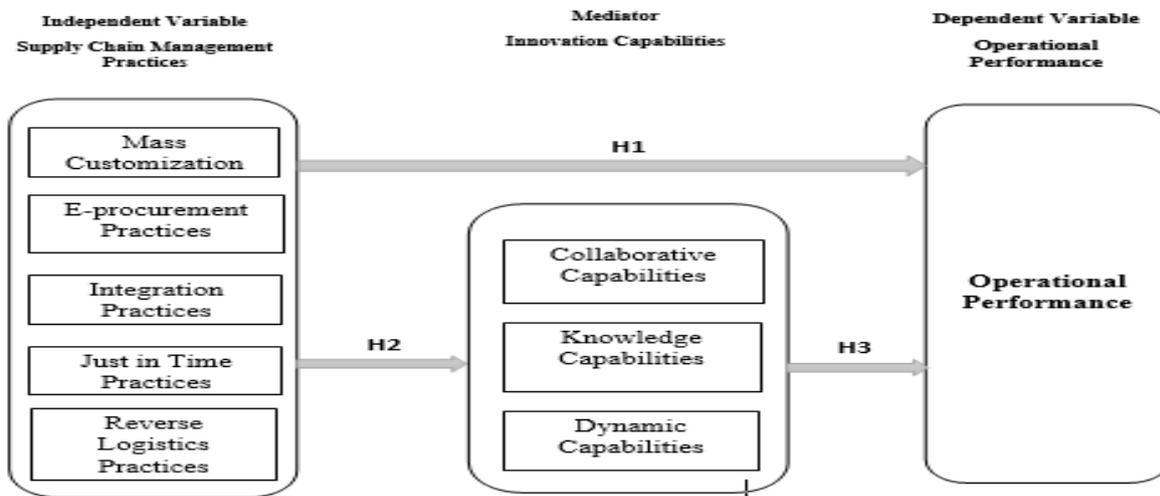


Figure 1: Conceptual Framework

4. Research Hypotheses

H1: Supply chain management practices have a positive influence on operational performance.

H2: Supply chain management practices have a positive influence on innovation capabilities.

H3: Innovation Capabilities have a positive influence on operational performance.

H4: innovation capability mediates the relationship between supply chain management practices and Operational Performance.

5. Research Methodology

5.1 Research Design

For describing trends and explaining the relationship among variables found in the literature, the research will follow the quantitative research to conduct this inquiry. The researcher specifies narrow questions, locates or develops instruments to gather data to answer the questions, and analyses numbers from the instruments, using statistics.

5.2 Population and Sampling

Population of a research is defined by Saunders et al., (2016) as the collection of all items whether of objects or of events or of people, that are to be considered in a given problem situation. For the purpose of this research, the research population refers to Henkel employees across the Middle East and North Africa. A questionnaire is conducted to collect data online via google forms. The research questionnaire was administered to eight hundred (800) respondents, 566 questionnaires representing 70.7% were returned, and 47 questionnaires representing 5.8% were incomplete or ineligible or refusals and 234 (29.2%) were not reached. There were 519 acceptable responses, a response rate 65%, which is highly adequate for the nature of this study. In this Research Paper, the Amos 26.0 software package was used to perform the structural equation modelling (SEM) to investigate the inter-relationships between the four constructs of the hypothesized model. The SEM is a statistical technique that allows assessment of both direct and indirect effects of each variable on the other variables. Hypotheses Testing Following a confirmatory factor analysis, the valuation of the structural model through testing of the hypotheses underlying the research model is conducted.

6. Results and Findings

According to Hair et al. (2019) SEM is a multivariate technique which combines multiple regression with confirmatory factor analysis (CFA) to examine the series of dependence relationship simultaneously of the hypothesized model. SEM has two mechanisms, namely measurement model, and structural model. The measurement model is basically meant for the reliability and validity of the latent variables and

observed variables, and the structural model is concerned with the path strength and relationship among the latent variable.

The estimations of the parameters and the overall fit index of the measurement model are based on the maximum likelihood (ML) method. The basic conditions assumed for the use of ML estimation are met or closely approximated in the study (Byrne, 2016). Further, the sample is sufficiently large ($n=519$), over the recommended size of 384 cases (Medsker et al., 1994), the scale of observed variables is continuous, and no violations of multivariate normality are found in the survey responses.

The 8 latent variables are measured by 51 observed variables. The level of internal consistency for each construct was acceptable, with the standardized loading ranging from 0.630 to 0.864 which exceeded the minimum hurdle of 0.50. In a Confirmatory Factor Analysis (CFA), the researcher can assess the contribution of each scale item as well as incorporate how well the scale measures the concept (reliability). The scales are then integrated into the estimation of the relationships between dependent and independent variables in the structural model. This procedure is similar to performing a factor analysis of the scale items and using the factor scores in the regression (Hair et al., 2019).

Composite reliability (CR) is used to measure the reliability of a construct in the measurement model. CR is a more presenting way of overall reliability, and it determines the consistency of the construct itself (Hair et al., 2019). Table 1 shows the CR. So, it clearly identified that in measurement model all construct have good reliability.

Measurement items have standardized loading estimates of 0.5 or higher (ranging from 0.630 to 0.864 at the alpha level of 0.05, indicating the convergent validity of the measurement model. Discriminant validity shows the degree to which a construct is actually different from other constructs (Hair et al., 2019). The Average variances extracted (AVE) should always above 0.50 (Hair et al., 2019). Average variances extracted (AVE) is shown in table Table 1. Overall, these measurement results are satisfactory and suggest that it is appropriate to proceed with the evaluation of the structural model.

Table 1 Model Validity Measures

| Variables | CR | AVE |
|--|--------------|--------------|
| Sales Orders Mass Customization | 0.899 | 0.689 |
| E Procurement Practices | 0.836 | 0.560 |
| Integration | 0.851 | 0.535 |
| Just in Time | 0.875 | 0.701 |
| Reverse Logistics | 0.757 | 0.509 |
| Operational Performance | 0.900 | 0.532 |
| Collaborative Capabilities | 0.876 | 0.502 |
| Knowledge Capabilities | 0.843 | 0.556 |
| Dynamic Capabilities | 0.899 | 0.560 |

Model Fit: The model fit indices like the comparative fit index (CFI) Goodness of fit index (GFI), Normed fit index (NFI), Tucker lewis index (TLI) and Root mean square of error approximation (RMSEA) were chosen to evaluate the model fit (Thakkar 2020). The model fit indices of the structural model and the cut-off value of those fit indices are presented in Table. The goodness-of-fit statistics show that the structural model fit the data reasonably well.

Model estimating is commonly achieved in research using Weighted Least Squares (WLS), Generalised Least Square (GLS), Asymptomatic Distribution Free (ADF), and Maximum Likelihood Estimating (MLE) (Byrne, 2016). However, the estimations of the parameters and the overall fit index of the measurement model are based on the maximum likelihood (ML) method. The basic conditions assumed for the use of ML estimation (Byrne, 2016) are met or closely approximated in the study. Table (2) provides a measurement model result - CFA

Table 2: Measurement' model result

| Goodness of Fit Measures | Cut-off Value | Model Result | Remark |
|--|---------------|--------------|----------|
| χ^2 (Chi-Square) | > 0.05 | 920.587 | accepted |
| DF (Degrees of Freedom) | ≥ 0 | 309 | accepted |
| χ^2 / DF (Chi-Square/ Degrees of Freedom) | ≤ 3 | 2.979 | accepted |
| CFI (Comparative Fit' Index) | $\geq .90$ | .916 | accepted |
| TLI (Tucker Lewis Index) | $\geq .90$ | .905 | accepted |
| RMSEA (Root Mean' Square Error of Approximation) | <.08 | .062 | accepted |

Model summary: The 8 factor was subjected to CFA using the AMOS software. DF was 309 (it should be more than 0), χ^2 / DF has a value of 2.979, that is less than 2.0 (it should be less than or equal 2.0 or 3). The RMSEA was .062 (it should be less than 0.08). The TLI index was .905 which is very close to 1.0 (a value of 1.0 indicates perfect fit). The CFI was .916. All indices are close to a value of 1.0 in CFA, indicating that the measurement models provide good support for the factor structure determined through the CFA. Figure (2) shows a Structural Model (Final Result)

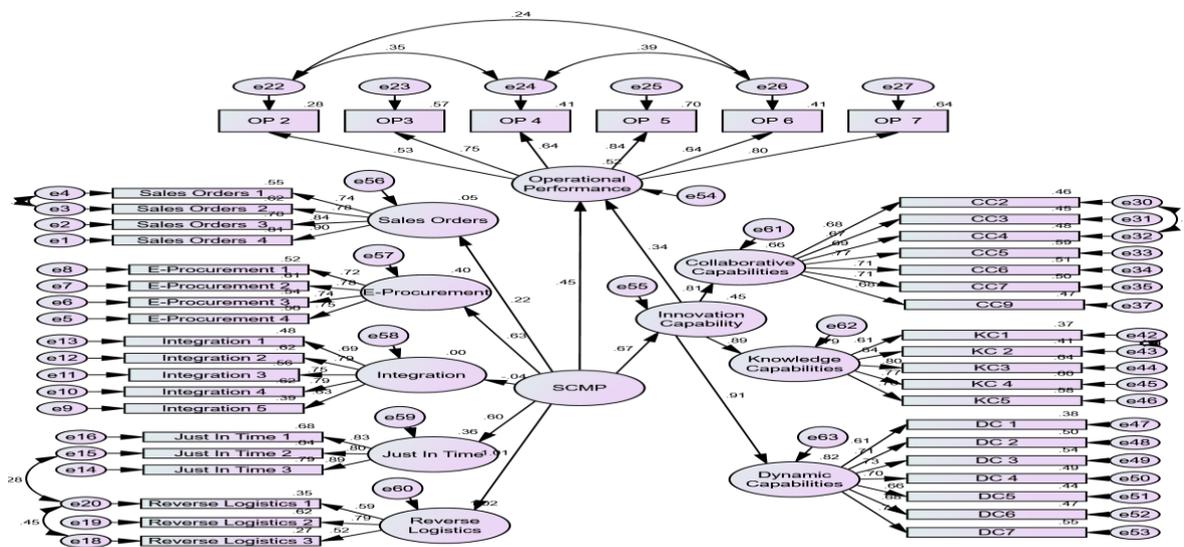


Figure 2: Structural' Model
The structural model validity - final Result:
Table (3) provides a structural' model (final Result)

Table 3: Structural' model - final Result

| Goodness of Fit (GOF) Measures | Cut-off Value | Model Result | Remark |
|--|---------------|--------------|----------|
| χ^2 (Chi-Square) | > 0.05 | 2017.009 | accepted |
| DF (Degrees of Freedom) | ≥ 0 | 886 | accepted |
| χ^2 / DF (Chi-Square/ Degrees of Freedom) | ≤ 3 | 2.277 | accepted |
| CFI (Comparative Fit' Index) | $\geq .90$ | .907 | accepted |
| TLI (Tucker Lewis Index) | $\geq .90$ | .900 | accepted |
| RMSEA (Root Mean' Square Error of Approximation) | <.08 | .050 | accepted |

Model summary: The 11 latent factors was subjected to Structural' model using the AMOS software. DF was 886 (it should be more than 0), χ^2 / DF has a value of 2.277, that is less than 2.0 (it should be less than or equal 2.0 or 3). The RMSEA was .050 (it should be less than 0.08). The TLI index was .900 which is very close to 1.0 (a value of 1.0 indicates perfect fit). The CFI was 0.907. All indices are close to a value of 1.0 in CFA, indicating that the measurement models provide good support for the factor structure determined through the CFA. See Table (3).

Conclusion

The purpose of this research paper is not descriptive or exploratory, but rather causal and explanatory. Furthermore, the researcher conducted a quantitative methodological phase of this paper. A questionnaire is used and includes three sections: first: supply chain management practices of FMCGs included (mass customization, E-procurement, integration, just in time, and reverse logistics). Second section: innovation capability included (collaborative capabilities, knowledge capabilities and dynamic capabilities). Third section: operational performance.

Population of a research is defined by Saunders' et al., (2016) as the collection' of all items whether of objects or of events or of people, that are to be considered in a given' problem situation. For the purpose' of this research, the research population refers' to Henkel across the Middle East and North Africa. The research questionnaire' was administered' to (800) respondents, 566 questionnaires representing 70.7% were returned, and 47 questionnaires representing 5.8% were incomplete or ineligible or refusals and 234 (29.2%) were not reached. There were 519 acceptable responses, a response rate 65%, which is highly adequate for the nature of this study. The proposed framework encompassed research variables: (supply chain management practices are considered' as the independent variable, innovation capability is considered as the mediator variable and operational performance is considered as the dependent variable. the researcher explores the analytical part performed to test the hypotheses performed to fulfill the research objectives.

Regarding the first objective: examining the relationship between supply chain management practices and operational Performance of FMCGs: According to the individual test of significance of the relationship between the variables. It reveals that, as expected Supply chain management practices have a positive influence on operational performance ($\beta = 0.448$, $p = 0.000$, $p < 0.05$). Therefore, (H1: Supply chain management practices have a positive influence on operational performance.) is supported. This finding is consistent with the result of Batenburg and Rutten (2003), Roy and Wilkinson (2004) and Huang and Liu (2014).

For the second objective: investigating the relationship between supply chain management practices and innovation Capabilities of FMCGs. The results showed that H2: supply chain management practices have a positive influence on innovation capability. ($\beta = 0.674$, $p = 0.000$, $P < 0.05$) is supported, as it predicts that supply chain management practices have a positive direct effect on innovation capability. That result is consistent with Cohen and Levinthal (1990), Clark et al., (1992), Teece et al., (1997), Savory, (2006), and Prieto and Easterby-Smith (2006) who stated that supply chain management practices have a significant effect on innovation capability.

For the third objective: examining the relationship between innovation capabilities and operational Performance of FMCGs. pertaining to H3: innovation capability has a positive influence on operational performance) is supported as the result shows that ($\beta = 0.340$, $p = 0.000$, $P < 0.05$, as it predicts that innovation capability has a positive direct effect on operational performance. That result is consistent with Lee, (2004), Devaraj et al., (2007), Liao et al., (2010) and Wong et al., (2011) who stated that innovation capability has a significant effect on operational performance.

For the fourth objective: investigating the mediation role of innovation capabilities between supply chain management practices and operational Performance of FMCGs. Findings revealed a statistically significant indirect impact of supply chain management practices through innovation capability ($P = 0.004$, $P < 0.05$). The results of the mediation effect indicate that there is partial mediation effect of the innovation capability between the relationship of supply chain management practices and operational performance.

This research paper investigates the impact of supply chain management practices on operational performance of FMCG organizations as well as the mediating role of innovation capabilities using a hybrid scale embracing (the collaborative capabilities, knowledge capabilities and dynamic capabilities) used for the first time in the middle east and the research tried to fill the knowledge gap and did not use the traditional models. Supply chain management practices constructs explained 45.5 % of innovation capability variance ($R^2 = 0.455$), Besides, supply chain management practices through innovation capability explained 52.1 % of operational performance variance ($R^2 = 0.521$). Moreover, this paper gives insights to managers and practitioners to improve the operational performance using the supply chain management practices in addition to that the researcher shed the light on the role of supply chain innovation capability of FMCG organizations and recommends generalizing the findings of this paper be considered through managerial implementation processes in FMCG organizations.

Research Limitations and Recommendations

The researcher studies the FMCG supply chains industry and did not include other industries, it is recommended to conduct research on various industries to investigate if the innovation types introduced have same impact on supply chain management practices, innovation capabilities and performance. This research proposes the need to explore appropriate ways to increase the research and development programs in the FMCG industry that will establish a platform to build and foster innovation in supply chain management with the intention of enhancing value addition. A comparative study should be conducted with different settings both in the sub-region, the developed and emerging world to determine the innovative supply chain management practices used by FMCG companies globally besides their contribution to organizational performance. Then, findings can be compared with this dissertation and conclusion drawn based on concrete facts.

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The business transformation enterprise architecture framework for innovation

The role of artificial intelligence in the global business education (RAIGBE)

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Keywords

Global Business Education, Artificial Intelligence, Hyper-heuristics, Business Transformation Manager's Profile, Transformation Project, Strategic and Critical Business Systems, Enterprise Architecture and Critical Success Factor.

Abstract

This article analyses the role of Global Business Education (GBE) and proposes the Applied Holistic Mathematical Model for GBE (AHMM4GBE). The AHMM4GBE is based on a lifetime long research on business transformations, Artificial Intelligence (AI), applied mathematics, software modelling, business engineering, educational systems, financial analysis, security and enterprise architecture. The used research methodology is based on the author's authentic mixed research method that is supported by a mainly qualitative reasoning module. AHMM4GBE's formalism mimics the human brain, by using empirical processes that are mainly based on heuristics. The AHMM4GBE is used to implement a decision-making system (or an expert system) to support a GBE and uses a behaviour-driven development environment that can be easily adopted by any organization. The development environment can be used by any team member without any prior computer sciences qualifications. The AHMM4GBE is used to estimate the Role of AI in GEB's (RAIGBE) context and tries to estimate the roles of the giants in this domain, like USA, China, and India; and what would be the real role of the European Union and France.

The uniqueness of this research is that the AHMM4GBE promotes a holistic unbundling process, the alignment of transformation strategies to support GBE's evolution. For a successful integration of the AHMM4GBE in projects, the manager's profile and role are crucial, where his decisions are supported by the selection, implementation and processing of critical success factors. A holistic systemic system approach is the optimal choice to integrate an RAI4GBE.

Introduction

Actual archaic Educational (or Business) Transformation Projects (simply a *Project*) are managed as silos where their components create a messy hairball that is called an Information and Communication System (ICS).



Figure 1. Technology Trends (Cearley, Walker & Burke, 2016).

To avoid such a failed scenario, this article recommends the usage of a central AHMM4GBE based Decision Making System for GBE (DMS4GBE) to solve business problems, by offering a set of possible solutions. Solutions have the form of recommendations for any type of GBE problem. Problem solving uses a central qualitative method that is based on a beam search (a heuristic tree's processing), where it uses quantitative methods at its nodes. DMS4GBE's actions produce solutions which can be applied by GBE specialists to support the implementation of a *Project*. A DMS4GBE is a multi-objective and multi-Critical Success Factors (CSF) based system oriented for problems' solving and its main goal is to maximize the *Project's* success rate. As shown in Figure 1, the major strategic technology trend is AI which is RAI4GBE's main construct (Cearley, Walker & Burke, 2016). The RAI4GBE supports a generic and cross-functional reasoning engine that is mainly based on: 1) CSFs' classification and management mechanism; 2) An adapted qualitative heuristics tree research method; and 3) a set of quantitative modules that can be triggered from its tree's nodes. AHMM4GBE's holistic concept is mainly business driven and is agnostic to a specific organization (Trad & Kalpić, 2020a).

Background

The *Project's* technical implementation phase is the major cause of the high failure rates; therefore, the *Manager's* needs skills should encompass: 1) Enterprise Architectures (EA), business process management and services technologies; 2) unbundling environments; 3) agile project management; 4) AI, algorithmics and mathematical models; 5) organizational engineering; 6) global educational environments; 7) financial management; 8) the implementation phase's know-how; and 9) technology integration strategies. For these reasons, the author recommends a *manager* with an extended technocrat's profile (Farhoomand, 2004) that needs to be complemented with various cross-functional skills. More specifically, this research focuses on the influence of the *Managers'* AI, high-tech and EA experience, background and education. *Projects* integrate avant-garde knowledge and services technology components. To be successful, a GBE must incorporate AI based tech to outperform their adversaries. Actually, there are many methodologies that can be used to implement *Projects* (Gartner, 2016), but all of them lack a holistic and anti-locked-in approach. The *Manager* can integrate an DMS4GBE in EA's roadmap, in order to support the *Project's* complex and risky implementation phase (Zaiane & Ben Moussa, 2018). The AHMM4GBE delivers a generic skeleton for the DMS4GBE that is capable to deliver just-in-time solutions. This article's research methodology is based on 1) A multi-domain literature review; 2) A mainly qualitative methodology; 3) A secondary quantitative methodology; and 4) An engineering-controlled experiment; which is the optimal methodology that can be applied in engineering projects (Easterbrook, Singer, Storey & Damian, 2008). The RAI4GBE uses CSFs that are stored in Critical Success Areas (CSA) and are managed by the author's framework.

The Author's Framework and Research Concept

The research concept is a part of the Transformation, Research, Architecture, Development framework (*TRADf*), which is composed of various modules. In this article, parts of previous works are reused for the better understanding of this complex concept. If everything was referenced, it would have been very difficult to follow and understand this article (Trad & Kalpić, 2011, 2016). This research concept can be considered as a non-conventional and pioneering one, in the field of *Projects* related to GBE systems. The used mixed method can be considered as a natural complement to conventional Quantitative Analysis for GBE (QNA4GBE) and Qualitative Analysis for GBE (QLA4GBE) methods. Both methods are compatible, and the difference is in the scope and depth of the research process. Empirical research validity checks if the research concept is acceptable as a contribution to existing scientific (and engineering) knowledge. In this article, the author tries to prove that the resultant recommendations and Proof of Concept (PoC), or experiment, are valid and applicable. Using Google's scholar online search portal, in which the author combined the previously mentioned keywords and other major key topics; the results show very clearly the uniqueness and the absolute lead of the author's works/framework in the fields of transformation methodologies, complex research projects and enterprise architecture. It can be considered as an important jumpstart for the future scientific and industrial use.

The Research Question and Knowledge Gap

In previous phases of research, the author concluded that a *manager* is an Architect of an Adaptive Business Information System (AofABIS), who has in-depth knowledge of business environments and the CSFs that are important. This defined the first step for the implementation of a successful *Project*, but the *Manager* must also have in-depth knowledge of: 1) Agile environments and EA; 2) AI and integrated development environments; 3) Businesspeoples' integration; 4) Project management; and 5) coordination of implementation engineers (Trad, & Kalpić, 2014a, 2014b). This article's Research Question (RQ) is: "What is the role of AI in Global Business Education?". The targeted domain is the role of France and the European Union in this global competition.

Artificial Intelligence

The European Commission defines AI, as a system that shows intelligent behavior, by analyzing the targeted environment and that can perform various tasks with autonomy, in order to achieve defined goals (European Commission, 2019). AI has the following fields (McCarthy, 1989; Bohnhoff, 2019): 1) Mathematical models and algorithms; 2) Decision trees; 3) Learning fields, like Action Research (AR); 4) Automated scheduling and planning; 5) Technology, resilience, and processing environments; 6) Robotism, automation, and recognition; 7) Data based decision approach; and other advanced topics. The author's mixed method is based on AR, which is an interactive inquiry process that balances problem-solving actions. AR actions are implemented in a collaborative context using a data-driven collaborative analysis. AR tries to understand underlying causes which enables future predictions about organizational changes, as an iterative learning process, where AI is a strategy (or concept) and not a product.

Critical Success Areas, Factors

CSA is a selected set of CSFs, where a CSF is a set of Key Performance Indicators (KPI). Each KPI corresponds to a *Project* requirement and a problem type. For a given requirement (or problem), an initial set of CSAs and their CSFs is defined and then managed by the DMS4GBE. CSFs are important for the mapping between problem types, knowledge constructs and organisational items. CSFs reflect possible problem types that must meet strategic *Project* goals and predefined constraints. Once the initial set of CSFs has been identified, then the *Project* can use the DMS4GBE to propose a set of solution types. Measurements are used to evaluate CSA's performances. The RAI4GBE delivers a set of solutions and recommendations (Trad & Kalpić, 2020a).

The AHMM4GBE

The AHMM4GBE includes a dynamic defined nomenclature used to facilitate the integration in any *Organization*. AHMM4GBE's structure and is a set of coordinated modules, delivers solutions that correspond to various just in time processing schemes. The basic AHMM4GBE's nomenclature that the base for DMS4GBE, is presented in Figure 2.

| Basic MM's Nomenclature | |
|---------------------------------------|---|
| <i>Iteration</i> | = An integer variable that denotes a <i>Project/ADM iteration</i> . |
| microRequirement | = KPI (1) |
| CSF | = Σ KPI (2) |
| CSA | = Σ CSF (3) |
| Requirement | = \bigcup microRequirement (4) |
| microKnowledgeArtefact | = \bigcup knowledgeItem(s) (4) |
| neuron | = action \circ data + microKnowledgeArtefact (5) |
| microArtefact | = \bigcup (e)neurons (6) |
| microEntity or Enterprise | = \bigcup microArtefact (7) |
| Entity or Enterprise | = \bigcup microEntity (8) |
| microArtefactScenario | = \bigcup microArtefactDecisionMaking (9) |
| Decision Making/Intelligence | = \bigcup microArtefactScenario (10) |
| EntityIntelligence | = \bigcup Decision Making/IntelligenceComponent (11) |
| MM(<i>Iteration</i>) as an instance | = EntityIntelligence(<i>Iteration</i>) (12) |

Figure 2. AHMM4GBE's nomenclature (Trad & Kalpić, 2020a).

AHMM4GBE's instances supports the DMS4GBE, by using CSFs weightings and ratings (in phase 1) and based on multicriteria evaluation (selected and defined constraints).

Organization/Enterprise Architecture as an Applied Mathematical Model

A generic *Organizational* EA model and its Architecture Development Method for GBE (ADM4GBE) are the kernel elements of this research. Where ADM4GBE links DMS4GBE's (and its internal QLA4GBE) microartefacts to the *Organization's* structure. The AHMM4GBE and its underlining set of created instances is mainly a QLA4GBE beam-search heuristic tree (Della Croce, & T'kindt, 2002). In each tree's node a precise call to DMS4GBE functions (or other) can be executed. GBE's transformation model uses an objective function, for the maximization or minimization.

The Role of Enterprise Architecture

The Architecture Basics

Project's EA, known also as the *target architecture*, in which *Project* teams align the traditional *Organization's* EA's vision. The traditional *Organization's* EA layers, represents a silo model where it is very hard to melt down into an agile EA. In fact, it represents a hairball of silo sub-components of domain and technology entities. Moving to a standardized EA is the first step to a *just-enough* architecture.

Integration of the ADM4GBE

ADM4GBE's integration in *Projects*, enables the automation and auto-generation of AI and other microartefacts, throughout all ADM4GBE's phases. The ADM4GBE encloses cyclic iterations, where information about all EA phases' activities is logged. ADM4GBE's is not dedicated to any specific *Organization*, domain or technology platform.

Global Architecture Capability

Understanding the *Organizations* and adapting the optimal EA, assumes that the *Manager* is capable of optimizing all of the *Organization's* heterogeneous and dislocated processes, into a holistic integrated GBE. A GBE is agile can be adapted to any *Organization's* EA strategy. *Managers* know that the effective management and integration of data-information through ICS' related technologies, is a key CSF to *Project's* success and an indispensable means to achieving GBE's *sustainable competitive advantage*.

Project Risk Readiness Assessment

Project Risk Readiness Assessment has the following characteristics (The Open Group, 2011a):

- The *Manager* must have in-depth knowledge of the EA's *Business Transformation Readiness Assessment (BTRA)*; which means that he has the *Capacity to Execute* and the ability to perform all the ICS tasks required by the *Project*, including the skills, tools, processes, and management capability for the implementation phase.
- The *Manager* must also design the *Enterprise Capacity to Execute*; which is the ability of the *Organization* to perform all the tasks required by the endeavour, in areas outside of ICS, including the ability to make decisions, using the built-in tree reasoning model, within the time constraints; that is very typical to *Projects* based upon similar complexity of endeavour.

Project Risk Activities

Project Risk Activities have the following requirements and characteristics (The Open Group, 2011a):

- The *Manager* has to identify the *Business Transformation Risks and Mitigation Activities*.
- The proposed recommendations curriculum enforces the *Managers'* profile. Where, the *Manager* uses the ADM4GBE to manage the implementation phase.
- GBE Transformation Readiness.

EA has the ability to perform all *Project* tasks, including defining skills, tools, processes, and management capabilities. *Enterprise Capacity* is the ability of the *Organization* to perform all the tasks required by the endeavor, including the ability to make decisions within the tight time constraints. The *Organization* has a demonstrated ability to deal with GBE portfolio management and requirements. Transformation Readiness has the following characteristics (The Open Group, 2011a):

- The *Manager* who has a profile of an Architect of Adaptive GBE (AofAGBE), which is an extension of the previous AofABIS profile, must have in-depth knowledge of framework's *BTRA*; which means that he has the capacity to execute all the GBE tasks required by the *Project*, including the

holistic management skills, modeling background, AI modules, GBE processes, and hands-on management capability for the implementation phase.

- In the last years, there has been successful execution of similar complex projects, and there are appropriate standardized processes, methods, modeling skills, and a heuristics-based model for deciding what skills and activities are needed.
- The *Manager* must also design the *Organization's* capacity to function, which is the ability of the *Organization* to perform all GBE's tasks, in areas not related to ICS and AI technologies, including the DMS4GBE, using the tree reasoning model, within the limited time constraints.
- The *Manager* has to demonstrate the ability to manage such a DMS4GBE, related issues and GBE requirements and there a need for knowledge and needed skills.

Business Integration and Inter-operability

GBE's Integration and inter-operability have the following requirements and characteristics (TOGAF, Catalog, 2011):

- Integration supports the *Organization's* link with GBE's eco-system and in turn insures its sustainability.
- Inter-resources operability is supported by an interchangeable format, that makes the *Organization's* interfaces generic, standardized and independent.
- EA tools support the serialization of GBE processes that use serialized and standardized format file.
- This interchange format supports GBE's integration process, that facilitates the use of the interaction matrix, which shows the mapping between the services and functional domains.

Business Infrastructure and Business Development Environments

Managing GBE's infrastructure, by the *Manager*, implies that he must be capable of modeling the transformed agile platform that is based on: 1) Resources sharing; 2) High availability; 3) Load-balancing; and 4) Voluminous data storages. *Organization's* security is also important, where the *Manager* has to have the skills needed to define GBE standards on how to design and implement security concepts for processes, in a way to protect GBE's logic from being copied, so the *Organization* can avoid erosion. There are many modeling strategies to achieve that goal.

Tools for Architecture and Modeling

Managers who focus on delivering business outcomes must understand that the *Project's* EA tools, which comprise an important investment that can be wasted if not prepared correctly. Selecting and adapting any tool requires also understanding the vendor placement in the market. A tools roadmap is centralized and inter-operable across the entire GBE.

Assess Readiness for Business Transformation

A BTRA can be used to assess GBE's readiness to undergo a *Project*, where this assessment process is based on the analysis (and rating) of a defined set of readiness CSFs. The results of the readiness assessment are combined with a capability assessment process. These results are then used to shape the scope of the EA, in order to identify the activities required within the GBE and to also identify the eventual risk areas (The Open Group, 2011a).

Identify the Transformation Risks and Mitigation Activities

Used to identify the risks associated with the *Architecture Vision* concept and to assess the initial levels of risk (like, catastrophic, critical, marginal, or negligible) and the potential frequency associated with them. A mitigation strategy for each risk must be also assigned (The Open Group, 2011a).

Confirm Readiness and Risk for a Project

Used to review the findings of the BTRA that was previously conducted in *Phase A* and to determine their impact on the *Architecture Roadmap* and the *Implementation and Migration Strategy*. In this phase, it is important to identify, classify and mitigate risks associated with the *Project*. All risks are documented in the *Consolidated Gaps, Solutions and Dependencies* matrix. *Project's* implementation requires knowledge and awareness of GBE's transformation CSFs that impact the visionary state, in which evolution ICSs CSFs are

crucial. GBE's *Implementation and Migration Plan* has to take both into consideration and neglecting them and focusing on the ICS will result in a fragile GBE (The Open Group, 2011a).

Lean and Automated Systems for an Agile GBE

Project's success is also measured by intangible CSFs and benefits because they insure its long-term *Organization's* survival. These agile mechanist *Organizations* needs a generic approach based on Service Oriented Architecture (SOA), that has created a deep paradigmatic shift in GBE. It is replacing colossal monolithic traditional systems with its traditional applications, which split across GBE.

AI based DMS4GBE

AI systems management refers to expert systems and global systems modelling, which is supported by the EA's mapping concept. AI systems management is an approach for building and deploying intelligent systems and it replaces conventional GBEs with DMS4GBE (Daellenbach & McNickle, 2005).

GBE Services

Cross-functional GBE's concept permits the linking of *Organization's* components using the ICS, automated domain processes and services. The unbundling of the monolithic GBE, is modelled by the *Manager* who must have extensive skills, he breaks down the actual monolithic GBE into a repository of services. This is basically an alignment of GBE's resources that is based on the 1:1 concept. GBEs must support a variety of different actors including browsers, browsers, and native applications. GBE handles service requests by executing processes (Richardson, 2014).

Architecture and Modeling

Architecture and modeling strategy for the selection, modeling strategy, education, and training framework, is to establish a modeling pattern that plugs-in a standardized EA and the unified modeling language methodology.

Data Modeling Pattern

The complex description of data models and related modelling patterns, does not do depend on the types of databases that are used; but the diversity of data-sources generates major problems in *Projects*, especially in its implementation phase.

Knowledge Management Pattern

The processes has to persist GBE knowledge and today there are the following artefacts: The process-oriented knowledge management framework will be applied for the *Project's* knowledge management component that will help in the selection, modeling strategy establishment and training activities which will use just-in-time knowledge assistance. It will also help the *Managers* in updating and delivering the acquired knowledge on...

Integrating a Continuum

EA supports the *Manager* to manage *Projects*, by linking GBE and its ICS. CSFs and recommendations are the base of a tuneable RAI4GBE. *GBE* recommendations are needed for finding the optimal *Managers'* profiles needed to manage the design and implementation of *Projects*. There has been a lot developed and written on enabling success in *Projects*, but the author proposes to inspect why *Managers* fail in the implementation phase of *Projects*. That is mainly due to the *Managers'* lack of knowledge in managing integration and implementation of a continuum.

Management of Resources, Artefacts and CSFs, Using AHMM4GBE

TRADf's mapping strategy is used to relate and assemble the *Project's* microartefacts, requirements and resources. This mapping concept is used to automate the building and deployment of *Project* microartefacts' instances in all *Project's* phases; and is based on DMS4GBE that maps the *Project's* microartefacts to CSFs (The Open Group, 2011a). The *Project's* has to define the initial set of CSFs.

The Role of Finance

AI based Financial and Technology Strategies

AI has transformed Financial and Technology (Fintech) offering and improved capabilities that depends on the used platform. Banks have spent \$5.6 billion USD on AI and Machine Learning (ML)

platforms in 2019, which is a fraction of profits that are estimated to \$250 billion USD. Where the main CSFs are, automation of tasks, to focus on strategic objectives, to support customers and to detecting fraud and financial crimes. Fintech's main activities areas are (Buttice, 2020):

- *Fraud Detection and Compliance*: according to Alan Turing's Institute, with \$70 billion USD spent by banks on compliance tasks in the U.S. The amount of money spent on fraud is staggering. AI is important in detecting financial fraud. ML is able to process massive data points in seconds and to identify erroneous transactions.
- *Improving Customer Support*: a critical application of AI in Fintech is customer service. Chatbots are a dominate capacity in all other verticals and are also gaining ground in the banking industry.
- *Preventing Account Takeovers*: an important part of our private identity has become public, and cybercriminals steal private data to access people's accounts and assets.
- *Next-gen Due Diligence Process*: mergers and acquisitions due diligence is an intensive process, requiring an important workload, a large set of paper documents and physical space to manage and store the data. Today the scope of due diligence is more ambitious, encompassing ICS, intellectual property, tax information, regulatory norms, and many other topics. AI and ML are transforming this field and adapt rapidly.
- *Fighting Against Money Laundering*: detecting money laundering and terrorist activities financing schemes are the most important challenges. AI, Artificial Neural Networks (ANN) and ML algorithms are more efficient than traditional statistic method in detecting financial crimes and organized predators.
- *Data-Driven Client Acquisition*: similar to any sector with different players offering services to a customer base and where competition exists. Efficient marketing is vital to acquire clients and AI/ML assists by applying behavioral and risk mitigation intelligence. AI based research and global information supports the understanding the drivers of churn and customer acquisition.
- *Computer Vision and Bank Surveillance*: in the U.S., Federal Reserve and banks are targeted by 3,000 robberies every year. Vision-based and recognition applications are used to support security systems.
- *Easing the Account Reconciliation Process*: account reconciliation is a sensitive point in the financial closing process. *Organizations* face account reconciliation challenges which is a tedious and a complex process that is managed by AI/ML processes.
- *Automated Bookkeeping Systems*: *Organizations* are often challenged by complex back-office's activities. AI based automated bookkeeping is able to assist *Organizations* in complex back-office tasks, from accounting to managing payrolls. Applying ML with custom rules, processes, and calculations, supports the system to combine various data sources and to identify transaction patterns.
- *Algorithmic Trading*: the first Automated Trading Systems (ATS) was implemented in the 70's, algorithmic trading reached new heights dur to AI systems. It is not only about implementing rules to trade on the global markets, modern ATS can learn from data structures by using ML (and deep learning).
- *Predictive Analytics and the Future of Forecasting*: accurate cash forecasting is particularly important for treasury professionals to fund distribution accounts, make optimal decisions for borrowing (or investing), maintain target balances, and satisfy all regulatory requirements. Business professionals are unable to forecast by using many variables (or CSFs) required for the correlation and regression analysis processes. Predictive analytics uses ML, data mining and modeling to historical and real-time QLA4GBE to predict events and enhance cash forecast.
- *Detecting Signs of Discrimination and Harassment*: various types of dynamics exist in financial services, especially since it is an industry dominated by predators. Awareness has increased and many *Organizations* filed discrimination complaints and they were retaliated against, which means that the majority of victims are demoralized.

The Role of Accounting

Predator Tactics

Concerning predator financial tactics, where the most damaging fact, is that the *Project* fails, what can negatively affect the *Organization's* sustainability and it can leave it to become prone to rigorous accounting austerity procedures. In this article, the author proposes a set of recommendations on how to avoid such blocking and damaging situations. Today many advanced RAIGBE related finance and accounting automation concepts exist. This article can support *Projects* through the automation of all its financial operations and their related accounting processes. That also enables the underlying RAIGBE to control accounting systems which interacts with global eco-systems. The RAIGBE can detect predator's resulting financial problems, crimes and irregularities.

Automated Accounting

RAIGBE promotes financial engineering that uses references to various types of asset management and related financial activities, like in the case of *Project's* accounting. These activities are conducted by different types of avant-garde governance, ICS and business service technologies. The current form of integration is based on block-chains' automation. The RAIGBE can be applied to many types of *Project* accounting engineering subfields. *Organizations* are encountering pressure to manage their assets proactively and holistically, in order to ensure their ethical integrity and to avoid predators' scenarios. A *Project* needs a just in time decision making, planning and optimization activities; and to achieve that goal, the designed *Project's* process manages the inventory of the *Organization's* assets.

Financial Predator's Strategy

Basics

The Financial Predator's Strategy (FPS) is based on the following facts and assumptions:

- Financial crime is in general considered as the financial aspects used in the support of religious terrorist acts. States applying state crime exists (Agger & Jensen, 1996), so various types of means are used to support state crime (like Switzerland), like religion, ideology...
- The use of psychology to stop all possible legal initiatives and even make predator related banks make substantial gains.
- The Nobel prize winner, the British economist, Angus Deaton, warns about the destructive FPS (Le Monde, 2019). Such profiles can be classified as predator profiles.
- Destroying, various banking and financial institutions worldwide, which might be a menace for the predator-oriented banks. Like in the case of Lebanon... (Trad, 2019).
- Although Fintech can be used to tackle financial Cybercriminal, it seems that the countries that support massive financial crimes are making the largest investment in these innovative technologies (Ravanetti, 2016).
- FPS Model
- This section analyzes FPS' model that has the following main characteristics:
- The Swiss Union des Banques Suisse (UBS), is not just a bank, it is the skeleton of the Swiss financial system and closely related to the Swiss government apparatus...
- The Swiss UBS, in which 32 trillion US dollars are *hidden* in only one remote island, so the question is, how much money this so-called bank illegally detains? ... (Stupples, Sazonov & Woolley, 2019).
- The Swiss locked-in Swiss model combines: 1) the power and blockage of the Swiss law; 2) Too Big to Fail banks are untouchable; 3) Banking secrecy; 4) Ultraliberal economy; 5) Rejection of local and global standards; and 6) A specific political environment.
- The peak of such a predator's behavior is the Fraud scandal related to the UBS that was hit with a historic fine and this incredible Fraud crime, was openly supported and protected by the Swiss Federal Court that makes FPS a state model (Alderman, 2019; Tagliabuejune, 1986).
- Accountancy crimes, committed by FPS accountants are daily business (Cornevin, 2020).
- There are many predators Fraud cases that damage practically all countries, like the USA, France, Germany, Greece, many African countries, Lebanon and many other... The hidden capital is reused as a credit to some of poor countries.

- Some credible sources like the Global Forum on Transparency and Exchange of Information for Tax Purposes peer review in 2011, has identified important deficiencies in the legal foundations for transparency and corruption, especially in relation with effective exchange of information (OECD 2011, 2014).
- In the USA, a federal judge accused the UBS of causing *catastrophic* investor losses in residential mortgage-backed securities sold before the 2008 financial crisis that caused more than \$41 billion of damage of subprime and other risky loans in 40 offerings (Stempel, 2019).
- The financial crisis of 2007 (that lasted to the year 2009) was marked by widespread fraud in the mortgage securitization industry (Fligstein & Roehrkasse, 2019).
- Paula Ramada estimated the amount of lost money due to the benchmark of interest rates debacle is estimated at \$300 trillion in financial instruments, ranging from mortgages to student loans.
- The Role of Education and Ethics
- The Nobel prize winner, the British economist, Angus Deaton, warns about the destructive predator's professional graduating business schools and to stop this type of brutalities. The leading school with such a perception is the Chicago school and the Swiss HEC (Le Monde, 2019). Such profiles can be classified as predator profiles which should be filtered from a GBE system.

Locked-in Situations and Building a Vision

RAIGBE must define basic rules and objectives, in order to avoid financial locked-in situations. Locked-in situations can be defined as follows, *"a situation where an investor is unwilling or unable to exit a position because of the regulations, taxes or penalties associated with doing so. This may be an investment vehicle, such as a retirement plan, which cannot be accessed until a specified retirement date"*. Financial or technological (or even a combination) locked-in, is when building the financial and technological structure of a GBE system. The *Project* team and *Manager* must be cautious of eventual various devastating locked-in scenario(s). Even though some countries like Switzerland offer attractive financial and tax package(s), this country applies a coordinated legal and financial locked-in trap; it is a sealed system and represents an unwritten concept that can at any moment sweep out the financial resources from any business environment and even powerful countries like, the USA and France. Swiss banks and other Swiss financial institutions are under no supervision, whatsoever and they are free to operate using hit and run tactics. That indirectly makes this country, the financial industry's super protector that sets up fortifications against any possible legal intrusion; even when these institutions are executing massive irregular, criminal and illegal activities (International Monetary Fund, 2009). Fintech based locked-in, implies that technologies in the actual financial domain, influences its productivity, growth and monetary policy. It supports also sophisticated predator crime schemes. It is a technology-driven domain and because of its hyper evolution depends on technology, the financial institution can be driven easily in a locked-in situation (Balling, Lierman & Mullineux, 2003). RAIGBE should avoid adopting a unique tool, the so-called all-in-one Fintech tools.

Slavery and Financial Aggressiveness

Looking at the cultural background, the legendary Germanic (mainly Germans, Swiss and Austrians) hatred of Semites and their support of the great Ottoman genocides, added to the fact, that major Nazi officers became consultants of pan-Arab genocidal dictators and executive bankers of major Swiss banks. There is also the case of slavery, discrimination and racism in Germanic central Europe and more specifically in the regions of the peace-loving Helvetic Confederation, where Swiss historians, who are supported by dozens of major public figures, launched a committee that inspects the case for *organized and structured worldwide slavery*. This massive case of slavery was directed and managed by Swiss bankers and political leaders. This committee's main aim is to estimate reparations in the context of Switzerland's related organize slavery crimes against humanities. In these crimes' major Swiss high-level politicians, trading companies, world class banks, cantons (like the Canton of Vaud, who still carries a slavery apartheid mentality), predatory family enterprises, mercenary contractors, soldiers and private individuals. All mentioned Swiss organizations profited from organized slave trade. Switzerland organized financial links to the slave trade and can considered global predators of manhood and

nationhood. These facts show this nation's culture of financial greediness that comes out always, exactly like in the period of the second world war and the case of plundering of victims of the Holocaust (Swissinfo, 2019).

Legal and Regulatory Constraints to be Integrated

To design and implement an adequate regulatory component, there is a need to implement an AHMM4GBE based legal intelligence module (Gray, 1997). The International Organization of Securities Commissions (IOSCO) identified eight areas that actually constitute what is currently called Fintech. Such areas are payments, insurance, planning, trading and investments, blockchain, lending/crowdfunding, data and analytics and security. The growth of the Fintech market implies a number of relevant issues and risks from a legal and governance perspectives. In this respect, financial regulation is increasingly complex with major financial entities required to comply with strict regulations in various jurisdictions. Like in various sectors, the complexity for regulators is to find the right balance between Fintech, national cultures and the need to regulate them correctly. Based on the European Banking Authority's report on prudential risks and opportunities, there are legal issues that have to be considered when dealing with Fintech.

The Role of Global Education and Profile Definition

RAI4GBE supports GBEs and the profile's selection, which will hopefully help to minimize *Project's* failure rates. Profiles depends on the type of activity. The RAI4GBE can be used in various GBE's subdomains, and it helps in the *selection* of the future *Managers*, who are capable of designing the change processes. Such *Managers* are also specialized in designing solutions endemic to *Projects* (Doyle, 1995).

The Anglo-Saxon Model

The college degree choices of Jeff Bezos and other CEOs like, Bill Gates and Mark Zuckerberg who dropped out of college, but they became wealthy entrepreneurs. In this model, a degree is not a step to success. Ultimately, if getting mega-rich from business is a goal, there is no prescribed path. Success has to do with meeting the right opportunities and specific way lessons are interpreted. Mark Zuckerberg, Bill Gates, and many others, did not even complete their degrees (Schwantes, 2020). These facts are pushing the notions of certifications that are considered more valuable than university degrees.

The European Model

Mainly the European continental part can be presented with the case of Serge Dassault, a French engineer, businessman and politician. He was the chairman and chief executive officer of Dassault Group. He graduated the prestigious École Polytechnique, SUPAERO and HEC Paris. This is the case of many European *Managers* and will this tendency continue is an uncertainty.

Instructional versus Academic Organizations

The main differences between these two disciplines are (Rob & Roy, 2013):

- Certifications attract hiring *Managers*, who suggest the implementation of certifications in traditional university programs.
- Certifications have been integrated in university programs and there were difficulties because certifications are based on commercial tools. This is a very commercial approach.
- The frequent changing nature of certifications is every two years.
- Certification programs can improve traditional lecturing and converge with standards.
- Students are interested in certifications.
- This can on the long-term, lock in many countries and *Organizations*, as AI tools come from a single mainstream.
- Certifications are superficial and can just assist a specialist, but an academic diploma stays essential.

Ethical Principles

The author based his approach and framework on the following main ethical principles (Murray, 1996):

- Content competence: a university professor or teacher maintains a high level of matter knowledge and ensures that his courses' contents are ethical, current, accurate, representative, and appropriate to the program of studies and global ethical standards.

- Pedagogical competence: a pedagogically competent professor communicates the main courses' objectives to the students. And he is aware of possible instructional methods or strategies and adapts methods of teaching to research realities (including personal or self-reflective research). These methods should be effective in helping students to accomplish the objectives.
- Dealing with sensitive topics: students would find sensitive or discomfoting topics embarrassing and that is why such topics should be presented in an open honest and didactical manner.
- Student development process: the teacher's responsibility is to contribute to the intellectual development of the student (in the teacher's area of expertise), and he should try to avoid actions such as exploitation and discrimination that detract from student development.
- Dual relationships with students: to avoid conflict of interest, a teacher does not enter into dual-role relationships with students. Such relationships may detract from students' development or may drive to favoritism on the part of the teacher.
- Confidentiality: student behavior, grades, attendance records and private communications are dealt with as confidential resources and are released only with student consent, or for legitimate academic purposes, or if there are reasonable grounds for believing that released communications will be beneficial to the student and the educational environment.
- Respect for colleagues: a university teacher respects his colleagues and works cooperatively with colleagues in the interest of academic development.
- Valid assessment of students: the importance of assessment of student performances in higher education is the teachers' responsibility. Where he makes the right steps to ensure that assessments are valid, fair, and congruent with course objectives.
- Respect for institution: in the interests of student development, a university teacher is aware of and respects the academic objectives, rules, and standards.

The author would add the following:

- In order to avoid the production of future predators, whose only goal is to gain a lot of money educational *Organizations* must include objectives other than just making money (Le Monde, 2019).
- To privilege ethics and to present cases of fraud and financial criminality like the case of the UBS and Switzerland, which are anti-academic (Stupples, Sazonov & Woolley, 2019).
- To promote Nelson Mandela's moto, which is, *education is the most powerful weapon which you can use to change the world...*
- Jules Ferry, the legendary French minister of education, privileged the approach in making men equal in their rights, dignity, mutual respect in order to replace animosity. He used the moto, *with unequal education, I challenge you to never have equal rights, not theoretical equality, but real equality and equal rights is the very foundation of democracy...*

Manager as a Cross-Functional Architect

Enterprise Architecture

Understanding *Organizations* and the CSFs that can influence their survival and competitiveness, is only the first step towards a successful *Project*. The *Manager* must have in depth knowledge of: *Project* architecture and its development management, businesspeople integration, agile project management and management of computer engineers. The *Manager* acts as solution designer and implementation architect. Accordingly, this research unifies resources from distinct but related areas: business processes, ICS infrastructure and *Project* resources. EA develops concepts for the *Manager's* selection and proposes a method to weight and inter-relate his various skills with CSFs. Estimating *Manager* skills requires a profound knowledge of the *Organization's* architecture, business processes, services, ICS and *Project* management issues. That rounds up the profile of an AofABIS. The *Manager* is in fact a AofABIS, where he acts as a coordinator of architectures teams, business specialists and their various activities (Trad, & Kalpić, 2013a, 2013b, 2013c).

Enterprise Architecture Skills

Another perspective of skills are the *Project's* architecture modeling skills that typically comprises: 1) Detailed business modeling; 2) Business building component design; 3) Business applications and actor's role design; 4) Requirement engineering; and 4) Standardized business integration, etc....

EA is considered as a superset of Business, Data, Application, and Technology Architecture is the *Manager's* main skill. A typical EA team undertaking the development of a *Project* architecture as described in TOGAF would comprise the following roles: 1) Architecture Board Members; 2) Architecture Sponsor; and 3) Architecture Manager.

Categories of Skills

An EA team skill set will need to include the following main categories of skills:

- Generic skills: comprises, leadership, teamworking, inter-personal skills, etc.
- Business skills and methods comprises, business cases, business process, strategic planning, etc.
- EA skills: comprises, modeling, building block design, applications and role design, systems integration, etc.
- Project management skills comprises, managing business change, project management methods and tools, etc.
- ICS general skills comprises, brokering applications, asset management, migration planning, SLAs, etc.
- Technical ICS skills: comprises, software engineering, security, data interchange, data management, etc.
- Legal skills: comprises, data protection laws, contract law, procurement law, fraud, etc.

Modeling Skills

Modeling strategy establishment skills comprise: 1) Business use cases design; 2) Business process modeling; 3) Business integration; 4) Strategic planning; and 5) services modeling, etc... The *Manager* must understand the business requirements, then he has to probe for business information, influence *Project's* team members, facilitate consensus in the implementation phase, synthesizes and translates strategic requirements into actionable tasks, manage CSF based risks, etc. The *Manager* participates in the discovery, modeling and design of the business scenarios that are the initial driving phase for the solution. The *Manager* manages the requirements and develops business models of components for the final agile business environment. Then he has to tune these business models through iterations to fit all business scenarios.

Managerial Educational Benefits and Recommendations

This research offers a set of GBE recommendations and benefits. *TRADf's* qualitative reasoning process model uses the recommendations to give the *Project* to tune the details of the *Manager's* profile (Vella, Corne, Murphy, 2009).

| By Importance | | |
|---------------|---|--|
| 1 | The Manager is an AofAGBE | |
| 2 | The Manager must have extensive experience in Projects | |
| 3 | The Project must avoid a locked-in situation | |
| 4 | Implement a light version of ADM4GBE | |
| 5 | An AI concept is a strategy and not a tool | |
| 6 | Education and training, are academic and not a certification farm | |
| 7 | Many AI domains and are redundant a GBE must define its own AI strategy | |
| 8 | RAI4GBE can be applied to any organization | |

Table 1 The list of recommendation

The Profile, Curriculum and Pattern

GBE's curriculum must comprise the knowledge of business modelling and EA, automated real-time process environments, agile project management, organizational behavior, AI, and ICS implementation know-how (Trad, & Kalpić, 2014a, 2014b). The profile and educational curriculum round up the GBE *Manager's* pattern.

The Proof of Concept

The PoC is implemented using *TRADf* which uses micro artefacts based on the "1:1" mapping concept.

The Literature Review's Outcome

The quantitative part of the mixed method that is made up of the set of CSFs. The surveyed types of specialists and managers were: 1) business and ICS school professors and directors, 2) managers of information systems, 3) project managers, 4) human resources, 5) educational professionals and transformation managers. The surveys confirmed the research RQ. The research shows that the *Manager* is an AofABIS. Therefore, a concrete *TRADf* was built and the PoC delivered the recommendations on how to select and train a *Manager* (Trad, & Kalpić, 2014a, 2014b; SAP, 2012a). The literature review process' (or Phase 1) uses the research's archive of references and links that are analysed using a specific interface. After selecting the CSA/CSFs and linking them to micro artefacts scenarios; this concludes Phase 1. The PoC (or Phase 2), that uses a grounded hyper-heuristic to process solutions to a given problem.

From Phase 1 to Phase 2

AHMM4GBE's main constraints and the *Project's* components supports the PoC. A main constraint is that a CSA average must be higher than 7.5. In this PoC's CSA/CSFs evaluation, has an average result higher than 8, as shown in Table 2.

| Critical Success Factors | KPIs | Weightings |
|--------------------------------------|-------------|----------------------------------|
| CSF_RAIGBE_Framework_ResearchProject | Proven | From 1 to 10. 10 Selected |
| CSF_RAIGBE_EA | Proven | From 1 to 10. 10 Selected |
| CSF_RAIGBE_DMS4GBE | Feasible | From 1 to 10. 09 Selected |
| CSF_RAIGBE_Finance | Complex | From 1 to 10. 08 Selected |
| CSF_RAIGBE_Education_Ethics | Complex | From 1 to 10. 08 Selected |
| CSF_RAIGBE_Profile_Definition | VeryComplex | From 1 to 10. 07 Selected |

Evaluate

Table 2. The outcome of Phase 1 has an average of 8.60.

Phase 2, the Setup

The PoC uses *TRADf's* development environment to configure the DMS4GBE and selects problems, actions and applicable solutions to verify RAIGBE's feasibility. The case study is a concrete insurance case.

Linking the Applied Case Study - Integration and Unification

The PoC and the ArchiSurance case with goals as shown in Figure 3, it analyses a merger, of an old system's landscape that has become siloed, that results in abundant data and code. The PoC, a financial auditing scenario.

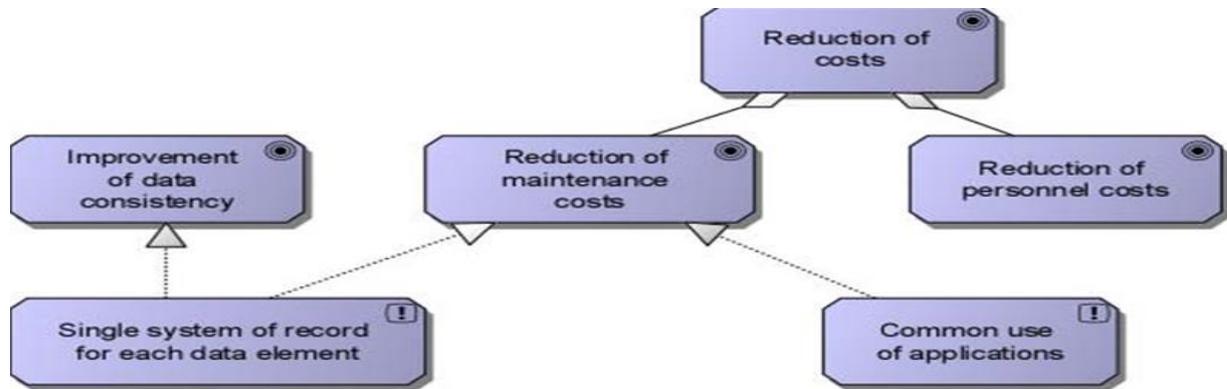


Figure 3. Transformation goals (Jonkers, Band & Quartel, 2012).

PoC's Processing on a Concrete Tree Node

In Phase 2, the hyper-heuristics approach is used, to find a combination of heuristics' action, used to solve a problem related to the RQ. A selected CSF is linked to a problem type and a related set of actions where the processing starts in the root node. Each problem, like this case the PRB_GBE_Single Data Record System problem, has the following set of actions:

ACT_GBE_Single Data Record System Define Possible Audit Processing

...

For this DMS4GBE related PoC, the author has selected the CSF_GBE_Single Data Record System_Validation as the active CSF, taken from the CSFs pool. In this PoC the goal is to find solutions related to this selected CSF's related problems. The author has decided to apply the AHMM4GBE based reasoning to try to solve the CSF_GBE_Single Data Record System Validation issues and the related problem or the PRB_GBE_Single Data Record System_Validation, which is solved by using the following steps:

- Relating the case infrastructure and financial transactions' integration capabilities to CSF_GBE_Single Data Record System_Validation capabilities is done in Phase 1.
- Link the processing of this node to the pseudo-quantitative modules, then by using qualitative modules, filter and deliver the initial state that is the root node of the decision tree.
- The internal heuristics engine is configured, weighted and tuned using configuration information.
- The set of possible solutions results from the hyper-heuristics decision model. Then the reasoning engine is launched to find the set of possible solutions in the form of possible improvements.
- From the *Tardif* client's interface, the development setup and editing interface can be launched to develop the finance related data services to be used in micro artefacts.

Selected Node Solution in Phase 2

The development scripts make up the processing logic of the RAIGBE's defined problems and is supported by a set of actions. Where these actions are processed in the *TRADf* background to support service micro artefacts that are called by the engine's actions, which deliver the solution and the flow of steps

Conclusion

The empirical phase of this research tries to prove the RQ and delivers an optimal GBE profile definition of the *Manager* and a set of recommendations. GEB's characteristics are needed to holistically manage the design and to implement an educational environment. More specifically, the author gives an overview of the research in grounded hyper-heuristics model internals, used by the DMS4GBE. The research's most important findings are:

- *A concrete framework*: *TRADf* is a concrete framework used to implement an RAI4GBE.
- *Knowledge gap*: The literature review found a gap between the traditional approaches and needed GBE.

- *Evolutionary mixed method*: This research uses a AHMM4GBE in order to create: 1) the role of AI for GBE; 2) the *Manager* profile; and 3) GBE prerequisites.
- *The PoC*: delivered the research's recommendations on how to implement an RAI4GBE.
- *Manager Profile and educational prerequisites*: *Organizations* produce general profiles that can hardly cope with heterogeneous complexity and fast changes. These high frequency changes are mainly due to the hyper-evolution of AI and technology. The research confirms the role of *Manager* as a AofAGBE.
- *Estimating of the Manager skills*: requires a profound knowledge of EA, SOA, AI and agile project management; this rounds up the profile of an AofAGBE.
- *Europe's and France's approaches*: are doing very well in the related academic fields, but concerning the industrial part, it is practically inexistant. It finds itself in a locked-in situation and it has to establish a strategy to join the major GBE and AI players.

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Electricity outages and its effect on small and medium scale enterprises (SMEs) in Nigeria

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SMEs, Economic growth, Electricity outages, Jeremy Bentham Theory

Abstract

Constant electricity supply enhances smooth running and performances of SMEs. However, electricity outages in Nigeria have been identified as one of the factors hindering SMEs' performance. This study aimed at exploring the impact of electricity outages on the operations and contributions of SMEs to Nigeria economy. Hence, the study evaluated the impacts of electricity supply on the growth of SMEs in Nigeria. It analysed the hindrances that deficient electricity supply could have on the growth and development of SMEs. Survey method was employed to administer structured questionnaires to 110 SMEs operators in three local government areas of Mainland, Shomolu and Agege in Lagos state, Nigeria. Descriptive statistics was utilised to analyse the collected data. A chi square method was used to test the formulated hypothesis. Findings revealed that electricity outages have significant effects on SMEs in Nigeria. The study recommends among other things that, state and local governments should join hands with federal government in generating electricity to ensure stable electricity supply; cost-benefit back-up generating plant is also recommended to keep business operative.

Introduction

Small and medium enterprises (SMEs) are significant to nations' economic growth and development (Eniola and Ektebangm, 2014). According to Adanlawo, Vezi-Magigaba and Owolabi (2021), SMEs role is significant to the development of many societies. Despite SMEs contribution to economic development, they are plagued with many challenges that hinder their optimal contribution to economic growth and development. Adewuyi and Emmanuel (2018); Muhammed et al. (2017) in their studies indicated irregular power supply as one of the major challenges confronted by SMEs in Nigeria. Ogundipe and Apata (2013) aver that SMEs require steady and uninterrupted power supply for production and provision of goods and essential services. According to Doe and Asamoah (2014), stable electricity is the foremost driver for industrial development that will result to economic growth. Scott et al. (2014) asserts that access to a consistent and affordable electricity supply is essential for smooth production of goods and services to meet mankind needs. Conversely, consistent supply of electricity to the SMEs is critical to the sustenance of middle-income status of many developing nations.

However, epileptic electricity supply is common in most developing African nations, and thus hinder substantial contribution to economic development. According to Iwayemi (2018), a total loss of output estimated at US\$470 billion (N71 trillion) in terms of gross domestic product (GDP) has been recorded between 1999 and 2015 in Nigerian economy due to power outages. Poor access to electricity supply has been recognized as a deterrent to growth of business activities (Ugwoke et al., 2016; Doe and Asamoah, 2014; Ogundipe and Apata, 2013). Also, World Bank Enterprise Survey in 2014 indicated that 35.5% of the small and medium scale firms in Nigerians indicated electricity outages as worrisome trouble to business operations (WBES, 2014). Seemingly, Adisa et al. (2014) in their study declare that fluctuations in electricity voltage and power outages affect the quality of goods and services. The result implies that electricity infrastructure is a genuine imperative on SME performance. Hence, this study explored the effect that electricity outages have on the performance of SMEs located in Lagos state,

Research Question:

Do electricity outages have significant impact on SMEs performance in Lagos state, Nigeria?

Hypothesis

The study was guided with this hypothesis:

H1: Electricity outages do not have significant impact on the performance of SMEs operators in Lagos State, Nigeria.

Electricity supply and outages

Electricity supply is a necessity for basic production of goods and services by small and medium scale operators. Doe and Asamoah (2014) aver that SMEs' access to adequate and affordable supply of electricity is a pivotal determinant for business profitability and growth. Conversely, Duru and Yusuf (2017) in their study concluded that access to electricity contributes to the development of existing rural SMEs to modernized ones. The authors add that constant electricity supply ensures development of new enterprises. Thus, constant electricity is imperative to the operative performance and sustainability of SMEs operations. As indicated by Doe and Asamoah (2014), SMEs owners have a high reliance on electricity as their effective productivity depend on constituent power supply, without which customers' satisfaction cannot be attained.

Doe and Asamoah (2014) submit that stable and easy access to electricity supply is critical to nations' economic growth and development. This implies that electricity consumption is a significant indicator for SMEs growth. Ogundipe and Apata (2013) study found a strong connection between electricity consumption and economic growth. Likewise, Rud (2012) proclaims that electricity supply and its consumption are connected with efficiency and economic development. Akinyele et al. (2016) affirm that regular and affordable supply of electricity has a pivotal implication in business sustainability and economic growth. As constant electricity supply is essential to business growth and development, so, also, the outages and irregular supply of electricity could have adverse effects on small businesses.

Nuredeen et al. (2018) submit that power outages could have affect SMEs expansion and lead to untimely liquidation. Electricity outages could adversely impact the profitability of SMEs (Scott et al., 2014). As opined by Abotsi (2016), electricity outages diminish production efficiency in most developing nations. Over the years, electricity outages have continued to frustrate many business activities in different parts of Nigeria (Adewuyi and Emmanuel, 2018). It is visible that electricity outages have limited expansion of SMEs and discouraged many local and foreign investors. Olatunji (2019) declares that electricity outages have led to migration of many business organisations from Nigeria to different nations. Moyo (2012) concurs that electricity outages affect firms' productivity in Nigerian manufacturing sector. In a nutshell, unstable electricity supply is a serious problem confronting SMEs in Nigeria.

Muhammed et al. (2017) established that electricity supply determines financial performance of the SMEs, especially, manufacturing sector. It is agreed that inadequate electricity supply contrarily influences the efficiency and profit ratio of SMEs (Alhelou et al., 2019; Nkosi and Dikgang, 2018). It is agreed that constant availability of electricity to SMEs has the inclination to impact employment, destitution, profitability and productivity (Nuredeen et al., 2018; Akinyele et al., 2016). This implies that constant electricity supply will alleviate the operators from incurring unnecessary expense on alternative back-up. As posited by Muhammed et al. (2017), economic development and sustainability of SMEs are determined by regular electricity supply for production of goods and services. Therefore, this study as well confirms constant electricity supply as a necessity for SMEs operations and productive capability.

In the realization of the potentials of SMEs to make a meaningful contribution towards nation's economic development, federal government of Nigeria have initiated and adopted several strategies to promote SMEs. Most of the programmes could not make visible contribution in the face of unstable electricity supply. Few of the strategies are discussed below:

Strategies adopted to enhance SMEs' operations by the Nigerian Government

According to Windapo et al. (2020); Sokoto and Abdullahi (2013), numerous strategies have been employed at different times by various successive governments in Nigeria to enhance SMEs. These include:

Establishment of Small and Medium Enterprises Development Agency of Nigeria (SMEDAN)

Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) came into existence through an enabling Act 2003. SMEDAN has the responsibilities to fulfill the main task of promoting and encouraging development projects. SMEDAN's major pre-occupation is to SMEs to prepare the beneficiaries for maintainable profit growth. The programme trained SMEs operators on how to efficiently use their finance. Having taken a cursory look into contribution of SMEDAN to SMEs performance, enabling environment still to remain a factor militating optimal performance of newly created millions of SMEs (Windapo et al., 2020).

Central Bank of Nigeria (CBN) propelled Micro, Small and Medium Enterprises Development Fund (CBN-MSME FUND)

The Central Bank of Nigeria (CBN) propelled the Micro, Small and Medium Enterprises Development Fund (MSMEDF) on August 15, 2013, as a major aspect of its developmental activity and financial advancing system (Ibrahim and Audu, 2020). This was in acknowledgment of the critical commitments of the MSMEs as sub-part of the economy and to bridge financial gap that categorized the sector. The fund recommends 50:50 proportions for on-lending to SMEs by participating financial institutions (PFIs). Likewise, 2% of the fund went to economically active people living with disabilities (PLWD), while 10% was made available for newly started businesses (Ibrahim and Audu, 2020). The expansive goal of the fund is to channel low interest funds of single digit of 9% to the sub-sector of the MSME in Nigeria through participating financial institutions (PFIs).

A survey carried-out by National MSME in 2015 on the impact and relevance of this fund shows that most applicants could not access the fund based on PFIs recommendation. Above all, the performance of this fund nose-dives on the assumption of office of new government. The discontinuity prevalence of policy in Nigeria has affected this initiative (National MSME Survey, 2015).

The Youth Enterprise with Innovation in Nigeria (YouWiN) Programme (YouWiN)

The Youth Enterprise with Innovation in Nigeria (YouWiN) Programme was a cooperation of the Ministry of Finance, Ministry of Communication Technology, Ministry of Youth Development and Ministry of Women Affairs and Social Development under the administration of President Goodluck Jonathan. The programme propelled yearly business plan competition (BPC) for ambitious young businessmen in Nigeria (Okpanachi et al., 2016). The programme was intended to empower youthful Nigerians whose age fall between 18-45 years. The youth are to exhibit enterprising aptitudes by beginning their own ventures and providing jobs for others (Obe, 2019). The scheme aimed to generate more job opportunities for the citizenry.

According to Adebayo (2016), YouWiN1, which was the initiative principal version was initiated to prepare pioneering (innovative) young people for employment creation by financing their plans. The subsequent version (YouWiN2) was a Mono-sex form that awarded more than 1200 female young people. The third version (YouWiN3) was Poly-sex; it had a record of awardees of more than 2500 young people. Evaluating the impacts of these programmes on the growth of SMEs as the objective was to promote SMEs in Nigeria; YouWin programme created more than 26,000 jobs at various sectors of the economy (Jonathan, 2013). Though, the programme has been critiqued to have been unable to empower many youths (Adebayo, 2016). Firstly, unemployed youth were not adequately covered in comparison with the number of unemployed youths in the nation. More importantly, infrastructural deficit, especially electricity outages where no doubt undermines the capacity of the programme to ensure its purpose and target.

Theoretical Framework/Relevance

Jeremy Bentham's Felicific Calculus Theory

The theory of utilitarianism of felicific and ethical calculi was propounded by Jeremy Bentham. The felicific calculus is a calculation detailed for ascertaining the degree or measure of joy that a particular activity is probably going to cause. According to Baujad (2009), Bentham's calculus is viewed as a single process with different phases. To Bentham, the felicific analytics could decide the ethical status of any thought about act. Numerous factors are to be incorporated in this calculation, which are:

i. Intensity: the robustness the strength of the joy

- ii. Length: what will be the duration of the joy?
- iii. Certainty or uncertainty: how possible is the joy occurrence?
- iv. Propinquity or remoteness: when will the pleasure occur?
- v. Fruitfulness: Probability that the action will be trailed by vibes of a comparative kind.
- vi. Virtue: likelihood that it is not trailed by vibes of the contrary kind.
- vii. Degree: what number of individuals will be influenced?

For ethical calculus, which is the application of mathematics to calculate issues in morals, Francis Hutcheson committed a section of his 1725-page book "Inquiry into the Original of our ideas and Beauty and Virtue" to an endeavor to present a Mathematical Calculation in subjects of morality (Hutcheson, 1769).

Formulas comprised $M = B * A$; where,
 M: is the moral importance of any agent
 B: is the benevolence of the agent
 A: is the ability of the agent

Methodology

The study is quantitative, it employed questionnaire as the instrument for data collection. A Simple random sampling technique was used to select a total of 110 SMEs operators/owners from the list of registered SMEs in Lagos state. Three local government areas of Mainland, Shomolu and Agege in Lagos state were purposely chosen based on nearness to the researcher. To give equal chance of being selected, the list was arranged in ascending order. Thirty-seven (37) SMEs were selected from both Mainland and Shomolu local government areas, leaving thirty-six for Agege local government. Simple random sampling allows an equal chance to every individual to be selected from the population (Acharya et al., 2013). A self-administered questionnaires was administered to these SMEs owners at their business locations and completed questionnaires were collected within three weeks. All the administered questionnaire was retrieved, making the exercise a 100% success. Consent forms were also given to the participants. Collected data was analysed using descriptive statistics, while chi square method was used to test the formulated hypothesis.

Presentation and Discussion of Findings

Age distribution of respondents

The importance of age in every aspect of life cannot be over-estimated. Because of its significance, this study decided the age structure of the respondents. Data from below table indicates that (n=25+57) which constitutes 74.5% of the entrepreneurs fall within active working population between age group of 18 and 60 years, while 19% (n=19) of the respondents fall within dependent group of over 60years.

Table 1. Age distribution of Respondents

| Options | No of Respondents | Percentage (%) |
|--------------|-------------------|----------------|
| 18- 30 years | 25 | 22.7% |
| 31- 60years | 57 | 51.8% |
| Over 60years | 21 | 19% |
| Missing | 7 | 6.3% |
| Total | 110 | 100 |

Source: Field Survey, 2018

Respondents' literacy level

Education is a prime factor that can influence invaluable success in SMEs. According to Adanlawo and Vezi-Magigaba (2021), education will influence technical know-how and managerial aptitude of SMEs operators. Table 2 below showcases 47.2% (n=52) of the respondents as secondary/high school leavers, while 36.3% (n=40) of the respondent are tertiary institution graduates. The education composition of the respondents is an advantage to SMEs' development and economic growth.

Table 2. Distribution of level of literacy

| Options | No of Responses | Percentage % |
|----------------------|-----------------|--------------|
| Primary School | 9 | 8.1% |
| Secondary School | 52 | 47.2% |
| Tertiary Institution | 40 | 36.3% |
| Missing | 9 | 8.1% |
| Total | 110 | 100 |

Source: Field Survey, 2018

Classification of respondents' SMEs operation

SMEs activities can be classified into production, semi- production and service. Table 3 indicates that 4.5% (n=5) of the respondents indulge in table water and beverages production, 8.1% (n=9) in transport and logistics, while 15.4% (n=17) are into printing and publishing services. 3.6% (n=4) are into fashion and textile service and semi- production (tying and dying of Adire), marketing and distribution services constitute 41.8% (n=46), while 16.3% (n=18) of the respondents are into education and training. The remaining 10% (n=11) of the respondents did not indicate their businesses. The table portrays that the vast majority of the respondents are into marketing and distribution activities which are corollary to production. Unfortunately, SMEs which are into production have the least respondents in this survey. This is an indication that business owners are moving away from production that require constant electricity supply. This result correlates with Muhammed et al. (2017) and Moyo (2012) findings that electricity outages have more adverse effects on manufacturing SMEs.

Table 3. Distribution of respondents' SMEs activities

| Options | No of Respondents | Percentage % |
|---------------------------|-------------------|--------------|
| Table water and beverages | 5 | 4.5% |
| Transport and logistics | 9 | 8.1% |
| Printing and publishing | 17 | 15.4% |
| Fashion and textile | 4 | 3.6% |
| Marketing & distribution | 46 | 41.8% |
| Education and training | 18 | 16.3% |
| Missing | 11 | 10% |
| Total | 110 | 100 |

Source: Field Survey, 2018

Most reliable source of power

As indicated in Table 4, 70.9% (n=78) of the respondents rely on generator to run their enterprises, while 22.7% (n=25) depends on electricity supply. The remaining 6.3% (n=7) abstained from the question. Generator (alternative power generator) usage ought to be an alternative source of power, but it has become the main source of power. Generator usage is at higher cost and not affordable to most entrepreneurs in developing nations like Nigeria. This finding validates Scott et al. (2014); Duru and Yusuf (2017) findings that electricity insecurity and alternate power usage adversely impacts the profitability of SMEs in many developing nations.

Table 4. Most Reliable Source of Power of Respondents

| Options | No of respondents | Percentage (%) |
|-------------|-------------------|----------------|
| Electricity | 25 | 22.7% |
| Generator | 78 | 70.9 |
| Missing | 7 | 6.3% |
| Total | 110 | 100% |

Source: Field Survey, 2018

Preferred Source of Power

Most entrepreneurs if not all will prefer electricity which is cheaper, safer and accessible for their businesses. Electricity as a source of power is unreliable in Nigeria. The quality of Nigeria's electricity supply ranks 141 out of 148 countries in the World Economic Forums Global Competitiveness Report (2013-2014). As portrays in table 5, 72.7% (n=80) of the respondents prefer electricity for their business which is hardly available and 21.4% (n=24) of the respondents believe in using generator for their enterprises. The remaining 5.4% (n=6) of the respondents abstained from answering the question. The result clearly portrays people's preference for electricity usage. This validates Akinyele et al. (2016) finding that electricity is cheaper and most affordable to small businesses.

Table 5. Preferred source of power by respondents

| Options | No of Responses | Percentage (%) |
|-------------|-----------------|----------------|
| Electricity | 80 | 72.7% |
| Generator | 24 | 21.8% |
| Missing | 6 | 5.4% |
| Total | 110 | 100% |

Source: Field Survey, 2018

Impact of Electricity on Small Businesses

Evidence from table 6 depicts that 73.6% (n=81) of the respondents indicated that electricity has significant impact on their business. Another 20% (n=22) designated that electricity has little effect on their business, while 4.5% (n=5) expressed that there is no impact of electricity on their business. The remaining 1.8% (n=2) did not answer the question. This survey verifies the findings of Olatunji (2019); Adewuyi and Emmanuel (2018); Muhammed et al. (2017) that electricity outages/insecurity affects the activities of SMEs in developing countries.

Table 6. Impact of Electricity on the Business of Respondents

| Options | No of respondents | Percentage (%) |
|-------------|-------------------|----------------|
| high impact | 81 | 73.6% |
| Mild impact | 22 | 20% |
| No impact | 5 | 4.5% |
| Missing | 2 | 1.8% |
| Total | 110 | 100% |

Source: Field Survey, 2018

Test of Hypotheses

H₀: Electricity does not affect the performance of SMEs operators in Lagos State.

Chi-square Tests

| | (O) | Expected (E) | (O - E) | (O - E) ² | $\frac{(O - E)^2}{E}$ |
|--------------|-----|--------------|---------|----------------------|-----------------------|
| Large Extent | 81 | 27.5 | 53.5 | 2852.25 | 104.08 |
| Mild Extent | 22 | 27.5 | 5.5 | 30.25 | 1.1 |
| Poor Extent | 5 | 27.5 | -22.5 | 506.25 | 18.41 |
| Missing | 2 | 27.5 | -25.5 | 650.25 | 23.65 |
| Total | 110 | | | | 147.24 |

Interpretation:

Calculated chi square of 147.24 is greater than table chi square of 12.59. The results indicate that X² calculated is greater than X² tabulated, therefore, the null hypothesis that electricity outages do not affect the performance of SMEs operators in Lagos state is rejected. The alternative hypothesis that electricity outages significantly affect the performance of SMEs in Lagos state is accepted. The result corroborates Olatunji (2019); Adewuyi and Emmanuel (2018); Duru and Yusuf (2017); Iwayemi (2017); Akinyele et al. (2016) and Doe and Asamoah (2014) findings which specify that electricity outages/irregular supply of electricity significantly affects SMEs' performances and responsible for closure of many manufacturing businesses.

Conclusion

With the reviewed literature, theory underpinning the study and survey carried out, this study concludes that electricity outages adversely affect the growth and contribution of SMEs to nation's building. Evidence portrays that several programmes have been initiated to promote SMEs, but most of them were not effective due to irregular supply of electricity/electricity outages (Olatunji, 2019); Muhammed et al., 2017). If we placed the appraisal of recent government policies (SMEDAN, YouWin and CBN MSME Fund) against the ethical calculus of Jeremy Bentham theory in which $M = B * A$. Where, M is the moral importance of any agent; B is the benevolence of the agent; and A is the ability of the agent. The impact of these initiatives is short-termed and insignificant as irregular electricity supply hinders production of goods and provision of essential services by the SMEs. This study concludes that the chance of any initiated programme to succeed in the face of electricity insecurity is slim. As a result, the moral importance of these initiatives with the confronting constraint of electricity insecurity to its good success is highly questionable. Therefore, this study affirms that electricity is essential to sustainability of small businesses.

Recommendations

The issue of electricity/power supply cannot be left as a sole duty of Federal government. State governments together with local governments in Nigeria should emulate Lagos state government that generate electricity through the Independent Power Project (IPP) to generate and ensure stable supply of electricity to SMEs in order to enhance national economy.

Seemingly, alternative means of electricity generation should be explored by both the federal and state governments so as to create more jobs opportunities.

SME operators should procure a cost-benefit back-up generating plant that will puts their operation costs at minimal rate and avert the risk of untimely liquidation of SMEs.

Regulatory bodies in the energy sector that will design strategies or measures to enhance electricity generation, distribution and costing are recommended to support SMEs in the production of goods and services.

Limitations and direction for future research

This study was conducted in Lagos, Nigeria, the result might not be generally applicable to all developing nations of Africa. Future research could build on this study by extending the focus to other Africa countries. Also, the effect of electricity outages on production and selling price of goods should be looked-into.

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Business transformation projects-virtual reality systems (VRS)

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Keywords

Business transformation, virtual reality, Artificial Intelligence (AI), Education and sports, eActivity

Abstract

This article proposes the fundamentals of Artificial Intelligence (AI) and is the basics to support Virtual Reality Systems (VRS) for Education and Sports (VRS4ES). The Applied Holistic Mathematical Model (AHMM) for AI (AHMM4AI) is the result of research on AI, business, education, digital sport, financial and organizational transformations using a mathematical model's concept. This research project is based on an authentic and proprietary mixed research method that is supported by an underlining mainly qualitative holistic reasoning model module that uses quantitative functions (Trad & Kalpić, 2020a). The VRS4ES uses the Artificial Intelligence Pattern (AIP) to manage eActivity (eEducation or eSports) processes. Such projects are cross-functional and complex undertakings, developed using selection-based classification and weightings of critical success factors and areas, which are used as global variables in VRS4ES. In this article the main subject is VRS4ES that uses AIP for optimal integration purposes. Such transformation projects can be applied to various types of VRS, like team competition, personal training, intelligent support activities and other. People have become addicted to virtual environments and videogames since the 80s, but what is interesting, is the attractiveness they boast nowadays. eActivity, or competitive videogame playing, have exponentially expended in the last decade, to the level that in 2017 the second most watched sporting event in the USA, after the Superbowl, was an eActivity competition (Acer, 2018).

Introduction

The problem in designing the VRS4ES, is the starting point and it is a rational start to define intelligence (Merriam-Webster, 2020a):

The ability to learn or understand or to manage new or revisited situations, using skilled use of reason.

The ability to apply knowledge to manipulate environments or to think abstractly as measured by an objective criterion (such as experiments results). This sentence defines the basics of engineering.

AI is the ability of an automated and monitored team, organization or group (simply an *Entity*) to perform intelligent-cognitive tasks/scenarios and react flexibly to its environment in real-time, like in eActivity or video gaming. Such scenarios are used to maximize the chances or probability of achieving a particular goal. An AIP needs a global approach for VRS4ES using a Decision-Making System for AI (DMS4AI) that can integrate into an *Entity*, like an educational organization's processes or eActivity teams. AIP uses a Natural Language Programming for AI (NLP4AI) that can be adopted by the project's development teams for implementing an VRS4ES (Myers, Pane & Ko, 2004). AIP based VRS4ES uses an Enterprise Architecture Integration for AI (EAI4AI) methodology as its skeleton.

Background

A societal, educational or business Transformation Project (simply the *Project*) that is based on a dynamic Information and Communication System (ICS) can support *Entities* to integrate complex VRS4ES strategies. The DMS4AI is used to solve VRS4ES requests or problems by offering a set of possible solutions in the form of actions and recommendations. The DMS4AI uses a central qualitative method based on a beam search (using a generic heuristic tree) that in turn uses targeted quantitative methods at its nodes. The DMS4AI supports the AIP based VRS4ES by using its multi-objective, multi-project, Critical

Success Factor (CSF) mechanisms. The authors based their research using existing industry standards, like for example The Open Group's Architecture Framework's (TOGAF) and its Architecture Development Method (ADM) (The Open Group, 2011a). A transformation manager (or simply the *Manager*) can integrate an DMS4AI in the transformation roadmap to support its complex and risky VRS4ES' integration process (Zaiane & Ben Moussa, 2018). The research's methodology is based on 1) a multi-domain Literature Review Process (LRP); 2) a mixed qualitative and quantitative methodology; 3) VRS4ES major references and trends analyses; and 4) an engineering-oriented Proof of Concept (PoC) (or a controlled experiment), which is the optimal for AI based engineering projects (Easterbrook, Singer, Storey, & Damian, 2008). The DMS4AI interacts with VRS analysts by means of an interface in order to manage the CSFs and to launch the reasoning process, where the Decision-making module (Dm) interacts with other modules. The research's main strength is the classification of CSF sets in Critical Success Areas (CSA) and their usage in the DMS4AI.

The research and development project's structure for AI

The main topic of the research is related to *Projects*, AI, VRS and their risk management capacities. The ultimate global research's Research Question (RQ) is: "*Which transformation manager characteristics and which type of support should be assured in the implementation phase of a transformation project?*". This article's RQ is: "What are the fundamentals of AIP in the context of a VRS4ES?".

The Research Basics

The AIP based VRS4ES, and the actual article is a part of the Selection management, Architecture-modelling, Control-monitoring, Decision making, Training management, Project management, Finance management, Geopolitical management, Knowledge management and Implementation management Framework (SmAmCmDmTmPmFmGmKmImF, for simplification reasons, in further text instead of the term *Transformation Research & Architecture Development framework, just Environment* will be used.

The Mechanics of CSFs Evaluation

The research for VRS4ES processing starts with the first phase (PHASE_1) called the feasibility phase, which checks if the whole *Project* and its AIP based VRS4ES approach, is feasible. Then tries to evaluate the success rate using the most important CSFs, using *Environment's* Dynamic Rules for AI (DR4AI). DR4AI artefacts are organised, parsed and weighted by the internal DMS4AI' engine. If PHASE_1 is satisfying and credible, then it is possible to move to the second phase (PHASE_2). *Environment* phases for a single research iteration. To implement this model there is need to understand the structure of a Holistic AIP implementation.

Natural AI Predisposition Quantum's Support

AIP's approach has an important impact on VRSs, and the way professionals prepare for competitions or exams. AIP automation can implement robots to prepare athletes in traditional sports. This holistic evolution permits to process data and allows athletes to prepare efficiently. Quantum for AI (Q4AI) is a cross-functional or a holistic field that is used for building quantum algorithms which can support computational tasks within AI fields like Machine Learning for AI (ML4AI). Q4AI has a holistic approach.

A Holistic View

Holism promotes a view presenting the whole as intimate strongly interconnected modules, which cannot exist independently in the end system, and they can be regarded as the sum of its modules. Holism is the opposite of a localized approach that creates isolated isles of knowledge. Holism is the approach where modules should be viewed as wholes of a unique system, not only a collection of ad-hoc algorithms, as it is often applied. *The term Holism was coined by Jan Smuts in his 1926 book Holism and Evolution.*

The Brain as an AI Etalon

Today, most scientists admit the fact that the brain is a complex combination of holism and phrenology, especially with the discovery of association cortices. Even, if holistic views are vastly

predominant, it was noticed and accepted that some specific/localized cortical areas were necessary for sensory inputs, where the high order of processing was carried out by the cortex as a whole, or in a holistic approach. The more complex question is whether a holistic brain can be part of a more complex network of brains (Unam, 2020); such a network would correspond to the collaboration of eActivity teams.

Collective Human Interaction-Electricity

Direct brain-to-brain communication has been a subject of intense interest in the last decades, mainly driven by advanced AI initiatives. Merging and analysing of human brain activities is the future of human collective AI activities, like in eActivity teams. Conducted studies, in which researchers linked together brains of several rats, using complex implanted electrodes known as brain-to-brain interfaces; resulted in what is known as the first *organic computer* with living brains collaborating as if they were a set of coordinated microprocessors. The animals in this network learned to synchronize the electrical activity of their nerve cells to the same extent as those in a single brain. Networked brains were tested for things such as their ability to discriminate between two different patterns of electrical stimuli and they routinely outperformed individual animals (Martone, 2019). Another approach is the case of exoskeleton as the external AI based skeleton supporting and protecting a body, in contrast to the internal skeleton (endoskeleton). Larger kinds of exoskeletons are known as *Shells* (Wikipedia, 2020).

AI Basics

Definitions

The main definitions for AI are:

McKinsey defines AI, as the ability of a machine to perform advanced cognitive functions; where it associates it with human minds, like perceiving, reasoning, learning, interacting with humans and the environment, problem solving, and exercising creativity (Chui, Kamalnath, & McCarthy, 2019).

European Commission defines AI, as a system that shows intelligent behaviour, by analysing their environment and that can perform various tasks with autonomy, in order to achieve specific goals (European Commission, 2019).

Stanford University defines AI, as science and engineering fields for making intelligent machines, especially intelligent software. It is software which tries to understand human intelligence, where AI does not have to limit itself to biologically observables activities (McCarthy, 1989).

Wikipedia defines AI as intelligence demonstrated by machines, in contrast to the natural intelligence, displayed by humans and animals (Wikipedia, 2020).

The *Environment* defines AI, as a generic and holistic systemic intelligence heuristics-based pattern.

Approaches and Contradictions

To analyse the various requirements of AIP based VRS, there is a need to understand the various existing contradictions and problems. And above all imagination, as Albert Einstein defines: *Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution...* (Einstein, & Shaw, 2012). Nikola Tesla did not believe in logical thinking alone and he expressed that intuition and imagination can support transformational initiatives. The answer to the mentioned contradictions is to have strongly interconnected granular microartefacts which simulate neural elements.

Common Constructs and Artefacts

For all AI domains can be classified using the following constructs and artefacts:

LRP: where before starting an AI processing task, there is a need to verify the analysed subject and looking for any existing evidence (references) to be used. This is called PHASE_1.

CSFs: can map to any type of variable in any AI field, like for example a dependent or independent variable.

A tree: is a generic problem-solving tree can be applied to all the defined domains.

Goal Function for AI (GF4AI) output asserts if the expected result was met.

Rules and constraints define the CSFs (or variables) limitations and if violated, related actions are to be launched.

Iterations define, the maximum number and current iteration value.

Data as an input, define the sets of input data.

Data as an output, defines the type of output data storage.

Processing success defines, the success conditions for each iteration.

Error coefficient defines the tolerance to be respected.

Data Science Integration for AI based and VRS4ES

Data Science Integration for AI (DSI4AI) main characteristics are (Le Baher, 2019):

The understanding of the integration of complex AI algorithms, which can be a hideous task. Nevertheless, it is useful to get insights for future analysis of various CSFs like performance indicators and other.

In a performance-oriented environment, the main goal is to maximize the CSF related to *Project's* success. Most of quantitative Key Performance Indicators (KPI) are correlated and are related to the selected CSFs, with a configured *kill participation* and assists in achieving maximum values. *Kill participation* is the percentage of a team's hits in which a player participates.

The 1st iteration concerns teams where players who achieved *kills* in organised/grouped competitions are better rewarded. It is observed that values are anti-correlated to the optimal value, where damage was done. KPIs could give hints about the metagame and could be studied in more in-depth.

Vision supports the role for farming, gold earned or damage outputs. *First blood* presence is slightly correlated to the win-rate and should not be significant CSF. It should not be considered as the main feature for futures DSI4AI based systems. *First Blood* is an in-game term, referring to the first kill in a game session.

AHMM4AI AND COMMON CONSTRUCTS

Common Constructs

Constraints and Rule based Engines for VRS

Constraints and DR4AI characteristics are:

AIP defines a set of assertions, stored in a database which maintains data about VRS' current state or knowledge.

Centralization in one data space, where the rule engines are optimized.

A rule set is a representation of an expert's knowledge and corresponds to a CSF.

The integration of a rule engine and a scripting engine in an AIP based VRS.

Critical Success Areas, Factors and Related Project Items

CSF for AI (CSF4AI) characteristics are:

The CSF4AI is based on CSAs.

A CSF corresponds to a microartefact scenario (a set of actions).

CSFs are important for the mapping between the AIP's resources, VRS requirements, microartefacts' scenarios and the VRS4ES platform.

The research starts with PHASE_1, to check whether the whole undertaking makes sense.

The Basic Nomenclature

The AHMM4AI has a defined nomenclature to facilitate AIP's usage needed to solve VRS problems. When using AHMM4AI for problem solving, starting with the tree's initial state that has a related GF4AI. The solution is the path through the tree state, where is given an initial/root state, and which satisfies the GF4AI (Tolos, 2018).

Heuristics, ML4AI, Empirics and Action Research

An AHMM4AI instance can launch a qualitative beam-search based heuristic processes (Della Croce & T'kindt, 2002), where weightings and ratings concept support VRS requests. Actions Research (AR) (Berger, & Rose, 2015) can be considered as a set of continuous beam-search heuristics processing phases and is synchronized with ADM's phases (Järvinen, 2007). Fast transformation requests may provoke an important set of events and problems that can be hard to predict and solve. The AHMM4AI is responsible for the qualitative heuristic process to support VRS4ES' problem solving and synchronizes a set of AHMM4AI instances which have also separate heuristics processes (Nijboer, Morin, Carmien, Koene, Leon, & Hoffman, 2009). AR based heuristics enables reflective practice that is the basis of a holistic approach to develop VRS solutions DMS4AI (Leitch, & Day, 2006).

The Applied Transformation Mathematical Model

The generic AHMM can be applied to any domain. In this article, the *Domain*, is VRS (AHMM4AI = AHMM(AI)). The model of an AIP based Transformation Mathematical Model (GAIPTMM), abstracts the *Project* for a given *Entity*. The GF4AI of the GAIPTMM's formula can be optimized by using constraints and with extra variables that need to be tuned using the AHMM4AI. The variable for maximization or minimization can be, for example, can be the *Project* success (Sankaralingam, Ferris, Nowatzki, Estan, Wood & Vaish, 2013). The GAIPTMM is the combination of AIP based VRS, *Project* and the ADM.

The applied case study for aip based VRS4ES

ICS and EAI4AI Infrastructure

The PoC uses a set a Case Study (CS), which includes:

An eActivity game from the official competition of FIFA in Football, that has been produced by EA SPORTS for over 20 years and is now the largest sports video game.

A specialized technical infrastructure transformations case (Jonkers, Band & Quartel, 2012a), developed by the Open Group and a set of other cases like Kinect gaming kit, they offer the capability to implement the AIP.

Concerning AIP based development, the needed goals to be achieved are:

The DMS4AI delivers a possible set of solutions.

Select a set of objectives from the proposed set of CSAs.

Builds AI microartefacts to support the various types of AIP based scenarios.

Prepare *Environment's* PHASE_1 and if successful, select a problem from the CS to prove research's PHASE_2.

Integrating CSFs

A CSF and its KPI enumerations are measurable and mapped to a weighting that is roughly estimated in the first iteration and then tuned through ADM iterations, to support the VRS. A set of CSFs are essential. The main issue is how to define the AIP's main goals to integrate the DMS4AI and how to interrelate the different fields like VRS fields.

THE ICS CSA

A Holistic Microartefacts Implementation Model for AIP

The AIP microartefact model includes (Daellenbach & McNickle, 2005):

Actual ICS methodologies/architecture, modelling and development enclose various automated NLP4AI microartefacts.

NLP4AI microartefacts' management contain micro-actions that manage various AIP activities.

The AHMM4AI structure is used to orchestrate NLP4AI microartefact instances and receive/evaluate change requests.

The AIP is based on a holistic systemic approach to use all the *Environment's* NLP4AI micro artefacts.

ADM'S INTEGRATION PROCESSES

The AIP supports the mapping and modelling of micro artefacts to VRS4ES' activities. The VRS is based on the EAI4AI (and other) standards and frameworks to align micro artefacts with existing ADM.

The Unit of Work-An Extreme Granular Approach

Defining AIP micro artefacts' granularity and responsibility for a *Project* is a complex process; added to that, there is the complexity in implementing the "1:1" mapping and classification of the discovered VRS micro artefacts. The AIP uses standard design methodologies like the TOGAF's ADM. The AIP's design and mapping concepts are supported by a set of the *Environment's* components where its internal NLP4AI implements micro artefacts to evaluate expressions, according to the AHMM4AI principles (Neumann, 2002).

The holistic strategic human resources system for AIP

Concerning the Human Factors (HR) CSA, in the authors previous research works, concluded that a *manager* is Architect of Adaptive Business Information Systems (AofABIS), specialized in the implementation phase of a *Project* (Trad & Kalpić, 2020a).

Critical Success Areas and Factors for AIP

The sets of HRS CSFs are presented in the form of a real-world constraints, which affect VRS' activities. *Managers* for VRS' integration might benefit from this research, while its ambition is to be considered as a major *Project* managerial benefit.

Needed HR Skills for the Selected Profile's Skills

There is no concrete educational curriculum for a *Manager* for VRS integration topics, where bookkeeping and political sciences profiles are chosen for such tasks. There is an essential need for more research on VRS *Managers'* profiles and their educational prerequisites. The needed skills must comprise the knowledge of VRS's: 1) AIP processes; 2) automated process management; 3) agile *Project* management; 4) team behaviour; 5) AI; 6) VRS development kits; and 7) ICS' and VRS' implementation skills. It is recommended to use the AofABIS profile for VRS' integration.

Educational Requirements

Managers need hands-on skills and educational curriculum that includes the following set of skills: 1) VRS architectures and processes management; 2) complex VRS integration initiatives; 3) agile AIP based development; 4) KMS4AI management and integration; 5) VRS' design; 6) DMS4AI management and AI methodologies; 7) VRS4ES functional domains.

The Role of Education

Basic Education Constraints

The role of VRS4ES in education is described as follows (Acer, 2018):

eActivity has expended in the last decade. Because of its growth, *Entities* should consider this its impact on future generations.

Higher education needs eActivity that have already gained its place in higher education systems worldwide.

Like traditional athletes, successful videogame players in high schools are awarded with scholarships for their studies. The main motivation for this trend is the proven impact of high videogaming skills on Science, Technology, Engineering...

The value of eActivity in education can make confusions between serious educational approach and mere entertainment.

There are initiatives to convince parents about eActivity in the educational system, where their children will experience video gaming in an educational environment. Such an approach can make students more prepared for the future.

A strong relation between eActivity and engineering subjects has been already proven. Competitive video gaming can enhance the development of engineering skills ...

The Evolution of Behaviour

VRS communities are heavily suffering from toxic behaviours, especially in competitions. There can generate negative behaviour, such as harassment and making barriers for players achieving high performance, to reduce players' efficiencies in order to make them leave the game. Sources indicate that the health players are at stake, they do not face identical challenges regarding a sane and healthy lifestyle as the average population. The transformation game training and integrating it in the real world, is a way to integrate physical activity and other behaviours in training (Rudolf, Bickmann, Froböse, Tholl, Wechsler, & Grieben, 2020).

Holistic decision and knowledge making systems

AI Basic Structure

The Use of Heuristic Trees

A Heuristic Decision Tree (HDT) is an abstract model and can be defined as a collection of nodes linked together through edges in a hierarchical structure. They have no cyclic relations and there is only one path to a particular node (Open4Tech, 2019). There are different types of HDTs, like Binary Tree, Binary Search Tree, Red-Black tree, AVL tree, Heap, etc. The deciding factor on which tree to use, is mainly performance. Since HDTs are data structures, performance is measured by inserting and retrieving data.

Evaluating the Decision

HDT's evaluation starts from the root node to the right-hand side and moves to the left; and the main steps are:

All nodes are labelled, and it starts with the closest node to the right-hand side, labelling the top and then the bottom nodes.

Then, recursively moving from right to left, weighting VRS4ES results.

Finally, the optimal actions are offered, based on the option that gives the best results.

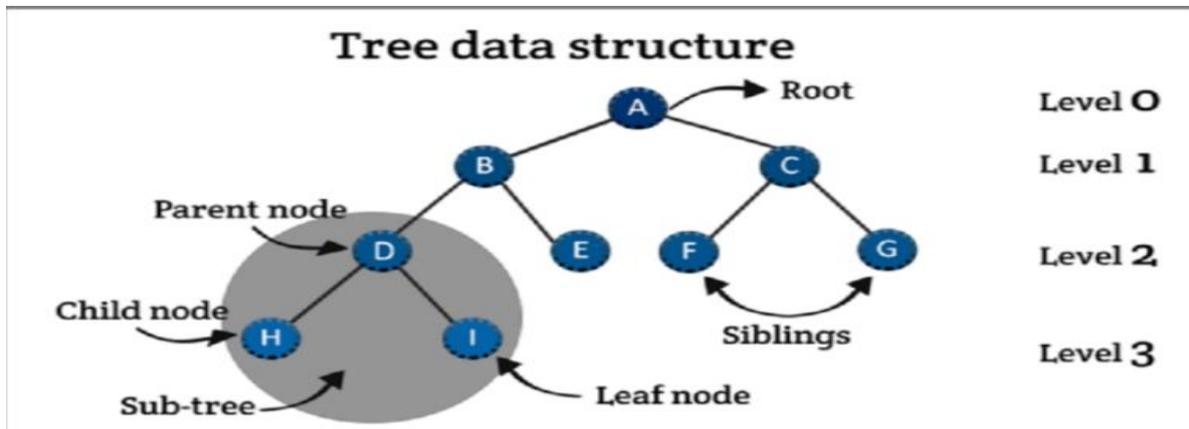


Fig 1. A heuristics decision tree.

Complex Decision based Systems

DMS4AI supports VRS4ES requests, which are processed by using an AHMM4AI's instance, that in turn is based on the selected CSAs and CSFs. The DMS4AI and KMS4AI have a complex system nature.

Rule based Engine for AI

The VRS4ES uses rules based DMS4AI and its main characteristics are the following (Krasner, 2020):

It is rule-based and covers most of the so-called ML4AI.

There are various manners to integrate VRS where data play a major role, and the quality of data is the most important CSF.

Best practices can be used to choose the right AIP methods.

ML4AI can be used to store human knowledge into DMS4AI as rules.

The DR4AI is optimal, but many rules can limit VRS' capabilities.

The Use of Machine Learning for VRS

The DMS4AI uses ML4AI, where its main characteristics are (Krasner, 2020):

DR4AI is a static intelligence approach, in contrast with ML4AI that is an adaptive approach.

ML4AI has the ability to deduce new rules and to eliminate the rules that are not useful.

ML4AI learns in various ways, but *supervised training* is generally the first step in an ML4AI process.

ML4AI interprets, classifies and performs tasks/scenarios using unstructured data.

To define VRS's integration strategy and AIP is essential.

Knowledge Management System for AI

This research relates and assembles AIP micro artefacts and resources. AIP micro artefacts are linked with the KMS4AI (The Open Group, 2011a). The *Project* identifies the sets of CSAs and CSFs for the KMS4AI and DMS4AI.

The DMS4AI and VRS4ES

The DMS4AI, where the user configures the NLP4AI micro artefacts and CSFs. These NLP4AI micro artefacts are orchestrated by the AHMM4AI choreography engine. The DMS4AI' actions map to the AIP which delivers actions. The AHMM4AI formalism is implemented in VRS' actions; such a set of actions can be modelled and managed by the AHMM4AI that is implemented with an experiment or a PoC (The Open Group, 2011a). The main impacts of DMS4AI on VRS4ES are (Bailey, 2012):

Rare research initiatives have researched the relationship between complex DMS4AI usages and the VRS domain.

Results show that some types of VRS domains increase aggression and affective processing.

These effects are relevant given the impact of executive functioning and affective processing on the quality of VRS.

DMS4AI is a crucial part of successfully achieving VRS' goals, including the VRS4ES.

The negative association between VRS and cognitive control because time spent, which is a period for the development.

The Role of The Vrs Platform

Technological Fundamentals

Basic Technologies

The platforms' fundamentals are (Alton, 2019):

eActivity is the forefront of VRS4ES, where technology plays a crucial role.

Goldman Sachs notes that: *To play a traditional sport, one typically needs access to an appropriate venue (field, court, arena, etc.), and to be successful, it almost always helps to be big, fast, strong, or coordinated.*

Building eActivity infrastructure needs: 1) Agile networks; and 2) On-Premises and edge technology.

Network speed, agility and bandwidth are critical CSFs, and one of the biggest issues that affects eActivity space is latency.

Cloud companies are focused on building network stability and reducing latency.

On-Premises solutions for security, since activities are online; on-premises technology is preferred for eActivity.

Basic specs are provided by the competition leagues and offer a preview on tech needs evolution.

Asset tagging helps in tracking of devices and managing their setup.

Monitors trace the visual experience where monitors are used during gameplay, practice and competitions.

Accessories like keyboards to headsets have an important role for gaming experience.

Cameras help to experience the thrill of eActivity.

Services for tuning eActivity components keeps the platform on point, is an important part of staying competitive.

Using Rules Engines

VRS4ES is complex that includes Internet of Things (IoT) and the the following rules engines (Waylay, 2020):

Rule's engines are based on forward chaining algorithms, knowing that most of the IoT based platforms use rules engines.

Condition/action rules engines are supporting VRS, even though they are using single conditional statement.

Stream processing rules engines process data in motion, directly as they are produced.

Event processing engines are the predecessors of stream engines and differ from them in the way they handle events.

HDT are a concise visual representation for specifying which actions to perform, depending on given conditions.

Trends

VRS platforms' main trends are (Verdict, 2020):

eActivity is the fastest growing gaming domain, this multiplayer VRS has a spectacular growth over the last decade.

eActivity is expanding and in VRS events thousands of spectators are filling stadiums to participate in live events.

VR4AI, using headsets and new games, is a fresh market for VR4AI eActivity that is emerging.

AIP is an integral stub for eActivity and includes ML4AI training platforms for skills and strategy development.

DSI4AI, extracts insights from data used by *Entities* across VRSs.

VRS4ES' Robustness

AI is evolving, disruptive in impact and pervasive in presence, its significant computational capabilities and vast potential for deep learning applicable to many areas. Together with 5G connectivity, the IoT, and the Cloud, AI is becoming transformative technologies, giving new opportunities. AI is used

automotive, manufacturing, healthcare and in defence industries, with datacentre and cloud computing infrastructure forming the principal areas in which AI training is done.

The Role of Big Data Integration for AIP

The role Big Data Integration for AI (BGI4AI) characteristics are (Wooden, 2021):

BGI4AI analytics and cloud technologies are used to improve performance.

VRS teams develop strategies, while operators want to provide enhanced viewing experiences and better regulations.

BGI4AI supports VRS where success is often determined by strategy and the analysis of past performance.

It is possible to collect statistical info on matches from websites, but the capacity to have deep analysis is not a simple task.

Tools for measuring are evolving and VRS4ES can simulate a team and process huge amounts of data.

VRS advancing, with potential for providing intelligence for marketing, professional performance and regulation.

Cloud infrastructure and BGI4AI analytics are integrated in VRSs.

THE IMPLEMENTATION'S POC

The CS

The CS is related to two cases, which includes an insurance claims system (CS_1) and an VRS gaming case (CS_2), where the AIP is the VRS4ES' main interface.

The PoC

The CS_1 Phase

The used CSFs has bindings to research resources, where the AIP was designed using an NLP4AI microartefacts. In this article's tables and the result of the processing of the DMS4AI, as illustrated in

Table 1, show clearly that the AIP is not an independent component.

| | Critical Success Factors | KPIs | Weightings Ranges | Values |
|---|--------------------------|----------|-------------------|--------|
| 1 | RDP4AI | Feasible | From 1 to 10. | 9,5 |
| 2 | AHMM4AI | Feasible | From 1 to 10. | 9,6 |
| 3 | ACS4AI | Feasible | From 1 to 10. | 9,25 |
| 4 | ICS | Feasible | From 1 to 10. | 9,75 |
| 5 | ADM4AI | Proven | From 1 to 10. | 10 |
| 6 | HR4AI | Feasible | From 1 to 10. | 9,4 |
| 7 | KMS4AI | Feasible | From 1 to 10. | 9,25 |
| 8 | DMS4AI | Feasible | From 1 to 10. | 9,2 |
| 9 | PLATFORM | Complex | From 1 to 10. | 8,4 |

EvaPA

RESULT: 9,3722222

Table 1. The research's overall outcome is (rounded) 9,40

The *Environment* and hence AIP's main constraint is that CSAs for simple research components, having an average result below 8.5 will be ignored. In the case of the VRS4ES' implementation, an average result below 6.5 will be ignored. AIP supports the relationships between the VRS4ES, this research's requirements, NLP4AI generic and micro artefacts, unique identifiers and the CSAs.

The CS_2 Phase-The Data Platform Setup

With CS_1's ending, CS_2 starts, with adapting BGI4AI to the data modelling part and it concerns the CS. ArchiSurance data architecture describes the relationships between the conceptual business objects and the logical data objects. ArchiMate also defines the ICS's Information Structure viewpoint, which is similar to the traditional data models. The used data viewpoints that the CS uses is the Logical Data diagram; that shows a subset of the business objects that ArchiSurance defines (Jonkers, Band & Quartel, 2012a).

A component, the customer data, is in the insurance file, which contains: 1) insurance requests for VRSs; 2) insurance policies for VRSs; and 3) damage claims. The purpose of the Data Dissemination diagram is to show the relationship between the entity sets data, business services, and application components. The diagram shows how the logical objects are to be implemented. Assigning VRS requirements to data is a CSF that is related to the competition criticality of the VRS infrastructure (Jonkers, Band, & Quartel, 2012).

The CS_2 Phase-Using AIP's HDT

Like mentioned previously, the FIFA environment was installed, in which all teams' activities were stored in the form of logs. Log records are scanned and mapped to the CSF and HDT models, by using the *Environment*. From the *Environment* client's interface, the NLP4AI interface was launched. Then the NLP4AI implements the needed micro artefact scripts to process the defined CSAs. These scripts make up the AIP's set of actions. The HDT is applied on a specific CSF that is mapped to a specific VRS problem and a set of actions, like for example the VRS' central log server's resources overflow problem. This problem was selected as using the log files of the VRS. HDT's algorithm uses DSI4AI calls to quantitative methods and delivers the VRS team recommendation on how to react.

Conclusion

Table 1 showed that VRS4ES' implementation is a complex but not a risky process except for the resources' limits and the PoC has achieved the objectives. The VRS4ES is mapped to the *Project's* processes and the aggregation of all the CSA tables exceeds the defined minimum, then the PoC was used for problem solving using the HDT with calls to quantitative methods. This article uses a mixed action research model, where CSFs support VRS *specialists* prepare sessions, and the main recommendations are:

Project has sub-projects, where the priority is to transform their DMS4AI, KMS4AI and the existing platform.

A distributed DMS4AI must be built to support *Managers* on various levels to manage AIP based VRS4ES.

Existing methodologies improve the robustness of VRS's infrastructure, which replaces the ancient infrastructure.

A VRS has to build an ICS, to counter fraud and ensure eActivity team's success, like the ones organized by major financial institutions can be expected (Stupples, Sazonov, & Woolley, 2019).

VRS4ES supports the strategy and preparing eActivity teams.

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Vertical integration and financial performance in African emerging economies: Case Study of Olam Nigeria Limited, Nigeria

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Keywords

Vertical Integration, Financial Performance, Upstream, Downstream, EBIT, ROI

Abstract

The rapid population growth and the ongoing globalization of the economies result in increased competitiveness. Customers now prefer organizations' that do not just meet but also exceed their needs. Vertical Integration (VI) has been used as a vital tool to increase competitiveness by aligning organizational functions and promoting new opportunities through supply chain management. Though, there has been ambiguity in findings on the impact of vertical integration on financial performance worldwide. Hence, the purpose of this study is to provide empirical evidence regarding the impact of vertical integration on financial performance in African emerging economies, a case study of Olam Nigeria Limited. The secondary data was obtained from Olam's cross-sectional financial record between 2010-2018, and the primary data was from 175 respondents out of the 183 questionnaires administered to the employee sample frame.

Descriptive statistics and regression analysis were used to analyze the data. The findings indicate a positive impact between the components of vertical integration and financial performance measures in Olam Nigeria Limited. This study is one of the first studies conducted in emerging economies after the International Monetary Fund (IMF) upgraded 9 African countries, including Nigeria. These findings can serve as a strategic, operational guide for business managers who may be considering vertical integration to improve their financial performance. This study also adds to the secondary source on the subject matter in the Nigerian Agribusiness sector, and it reiterates the three theories: transaction cost theory, resource-based theory, and property rights theory. However, the financial performance measurement metrics are limited to Olam's recommended parameters to gauge its progress, and the study did not cover the moderating variables.

Introduction

Nigeria accounts for 2.35% of the world's population, made up of 36 states inclusive of the Federal Capital Territory (FCT) Abuja. The country has a growth rate of 2.60% with a land area of 923,768 square kilometers (World Population Prospects, 2019), most of which are fertile or suitable for farming activity. Since the 1970s, the country's income source has been oil (Michael and Oyeyemi, 2018). However, before discovering oil, the agriculture sector was a significant aspect of Nigeria's economy regardless of the oil boom (Izuchukwu, 2011). Despite decades of the booming oil sector in the Nigerian economy, agriculture is debatably the most relevant aspect of the economy. In 2017, "Agriculture contributed around 20.85 percent to Nigeria's GDP" (Izuchukwu, 2011). Enduring food security remains the first and most vital to human life and survival. Food security necessitates a need for strategies that will positively impact agricultural firms' financial performance and contribution to the nation's economy. Vertical integration is considered an extensively promising prospect in agribusiness firms in rural settings (Carillo *et al.*, 2016).

One of the many agricultural firms in Nigeria is Olam Nigeria Limited, a subsidiary of the Olam group, one of the largest and oldest agriculture firms with representation across over sixty countries globally. Olam has its presence in several countries across continents: Asia, Europe, Australia, North America, South America, Central America, including Africa. Kewalram Chanrai Group (KC Group), one of the oldest companies in Africa and Asia with over 150 years of trade history, established Olam Nigeria Limited. Today, the firm is spread across 133 locations across states in Nigeria, and over 3000 direct

employees, approximately 500,000 farmers, and 70,000 seasonal workers. Olam has offices and operational units across all geopolitical zones in Nigeria, with functional scope expansion in three major business streams: exports and imports, branded packages, and food products. Its value chain activities include sourcing, processing, marketing, and distributions.

The offerings of Olam Nigeria Limited are grouped into animal feeds and hatcheries, sourcing and procurement, grading, processing and export of; cocoa, cashew, and sesame hulling, local farming, milling, rice production and distribution, wheat milling and pasta, biscuits, candy and confectionery, culinary ingredients; spices: onion and garlic, pepper, tropical spices, chili, and specialty products, noodles, tomato paste, and dairy beverages. Olam Nigeria Limited is one of the sustainability leaders in the industry and operates a defensible and differentiated strategy. The firm uses different forms of vertical integration across its products and businesses. Olam engages in relationship marketing as a strategy to give them a competitive edge. They also offer their customers solutions and services based on their strength and industry trends. Olam's presence in many countries worldwide provides the company with access to experts, experience, product, business, and origin knowledge, giving them global power and a chance to lead the industry (Financials, n.d.; Nigeria, n.d.).

The increasing global market competitiveness requires a strategy that will give the business a progressive financial performance. This market requires a strategy directed at a firm's sustainable competitive advantage ((Porter and Kramer, 2002). Hence, it is a requisite for managers to employ a strategy that will enhance financial performance to meet its ultimate profit goal. One of the most critical strategies championed by strategists in addressing supply and distribution challenges to boost performance is vertical integration. The vertical integration strategy is an up or down extension of a business activity employed to enhance performance. Over the years, scholars have examined the consequence and influence of vertical integration on performance in different firms across industries and geographical regions.

As a consequence of the global market, managers are responsible for developing a strategy to boost performance. According to Statista, the global population is forecasted to increase by two-thirds, and the Nigerian population expected to be double by 2050. In addition, the Nigerian market has been included in emerging markets with other 8 African countries by International Monetary Fund (IMF) (Africa Business, 2020). These emerging growth economies and rapid population growth are a challenge for entrepreneurs, national and foreign investors. There is a potential for remarkable high returns while concurrently embracing substantial risks to exceed customers' expectations and maintain competitive advantage. For an organization to be sustainable, it must identify its customers' preferences, predict the market's needs and find a niche. This competitive and sophisticated market requires organizations to go beyond the meeting and exceed market needs to remain relevant.

Vertical Integration (VI) has been used as a vital tool to increase competitiveness by aligning organizational functions and promoting new opportunities through supply chain management. There has been ambiguity in findings on the impact of vertical integration on financial performance, especially in emerging economies. This strategy is often geared towards financial performance, as it is the primary objective of a business. Hence, managers must strategize accurately towards a progressive financial performance and a competitive edge in the industry. In strategizing to tackle these challenges, many firms have employed a vertical integration strategy to boost general performance, specifically financial performance (Zhang, 2013). Vertical integration strategy is a multi-dimensional concept split across internal and external integration (Harrigan, 1983, 1985; Prajogo *et al.*, 2012). The internal integration deals with the internal activities of the firm: process and functional roles. In contrast, external integration deals with the firm's external activities: supplier/upstream and customer/downstream. Vertical integration action was created by Andrew Carnegie around 1902, in a bid to have his company Carnegie steel dominate the steel market by making more money and controlling the market (Ashay and Ananda, 2001; Schmenner, 2009). Gustavus Franklin Swift Sr. applied this strategy in his meatpacking business for cost control (Chandler, 2009). Over time, other firms adopted the vertical integration strategy as a corporate move to majorly gain a competitive edge, cut cost, control the market, among others, toward the firm's objective and good performance output. Vertical Integration (VI) defines a firm engaging in an activity that can otherwise be from a third party (Hovenkamp, 2010).

Furthermore, Porter (1998) describes vertical integration as the technological expansion to production's principal activity within the same firm's structure. Vertical integration is a firm's merged activities that are not part of its primary function but linked to the chain of marketing activities (Ayinde *et al.*, 2017). Williamson (1991) views vertical integration as a firm's last option when all other options fail. According to Harrigan (1985) and Hoskisson (1987), "vertical integration strategy is often employed by firms seeking to increase economies of scale and efficiency" vertical integration functions as a practical tool used by strategists to respond to supply and distribution challenges geared towards influencing performance. Unfortunately, this strategy interface with many dynamic real-world complexities that may affect the intended expectation on performance. In general, several academic scholars' studies on vertical integration remain an issue of intense arguments on the challenges and benefits of this strategy for the companies and the consumers stemming from the various vertical integration and performance relations findings.

Although VI has been well researched and implemented in developed countries, it is still critical in African emerging economies like Nigeria, where research on VI is still very few. In addition, a review of relevant previous empirical studies has shown ambiguous findings. These findings range from; positive impact by Gil and Warzynski (2009); Maroof *et al.* (2017) to negative impact by Hamdaoui and Bouayad (2019); Pieri and Zaninotto (2013), and to non-significant by Mamman *et al.* (2013), and mixed outcomes (Andreou *et al.*, 2015; Forbes and Lederman 2010; Maina and Kavale 2016; Rothaermel *et al.* 2006; Zhang 2013). This ambiguity in findings across industries and regions necessitates the continuity of research interest in the relevant area. Therefore, this study investigates the impact of vertical integration on financial performance in Olam Nigeria Limited. Further, the research problem in broad question is: "What is the impact of Vertical Integration (VI) components on Financial Performance (FP) measures using Olam Nigeria Limited as a case study?"

Literature Review

Vertical Integration and Theories

The primary aspect of vertical integration is that it creates value addition to its value chain (Badinger and Egger, 2008). Harrigan (2009) stated that vertical integration should be from two perspectives: internal benefits and costs and effects on competitive postures. The author further explained that internal benefits affect profitability as the strategy. Simultaneously, strength in competitive posture enables firms to be more responsive to changes in market needs and less vulnerable to competitors' maneuvers. Williamson (1986) and Afaro *et al.*, (2016) describes vertical integration as the cost of arranging business transactions to reduce the production process's overhead cost. Vertical integration can be motivated by lowering transaction costs, improving incentives, and limiting the holdup problem between upstream and downstream firms, especially when it is difficult to contract (Coase, 1937; Jacobides and Winter, 2005; Williamson, 1975; 1985). Jacobides and Winter (2005) argued that vertical integration is the quest to lower transaction costs and enlarge its company's capacity. In the 1970s, transaction cost theory developed in vertical integration studies concerning "make or buy" or "buy or sell." The transaction cost theory driven by cost-saving action was due to incompleteness and inefficiencies embedded in the market contract and potential organizational responses (Joskow 1985; Klein *et al.*, 1978; Goldberg, 1976; Williamson, 1971, 1975, 1985).

Langlois and Robertson (1989) stated that discouraging holdup and supply interruptions necessitated vertical integration among organizations. Historically, Powell (1990) asserted that vertical integration is often employed by firms that intend to enjoy benefits inherent in the strategy and mitigating constraints associated with supplying firms. Stuckey and White (1993) concurred that it is adopted by organizations to ensure stability in their value chain. Flexibility in the production unit and distribution unit of vertically integrated companies serves as the bedrock of a vertical integration strategy.

Vertical integration may be desired by a company that intends to attain a competitive advantage among its competitors by protecting resource imitation (Barney, 2002). Vertical integration is driven by the need for the effective and efficient use of resources to boost performance and gain competitive advantage, this strategy aligns with the resource-based theory (Hitt *et al.*, 2016).

The resource-based theory was explained by Wernerfelt (1984) in his book titled "the resource-based view of the firm." The theory emphasized the achievement of an organization's competitive advantage.

The resource-based theory has created expansion on theoretical and empirical knowledge of vertical integration decisions. The core point of this theory is that resources and capabilities owned and controlled by firms considered heterogeneous evaluated through resource-market imperfections, unique resources, inability to alter stock, among others (Barney, 1991; Dierickx and Cool, 1989; Wernerfelt, 1984; Penrose, 1959; Schumpeter, 1942). Rantakari (2010) defined the resource-based view theory as client companies' ability to create and sustain a competitive edge through efficient internal resource utilization. The author further explained that a firm combines tangible and intangible resources that necessitate the company to compete favorably with similar firms.

French (1989) argued that organizations ventured into vertical integration to control raw materials, provide mass marketing, and ensure internal production efficiency. Christopher (2011) asserted that vertical integration typically implies the absolute control of inputs suppliers and the organization's distribution channels, particularly with a vertically integrated supply chain. Williamson (1975) concluded that the rationale for adopting vertical integration was to cater to uncertainty in the contract and improve decision-making. Bain (1956); (1959) explained that vertical integration involves different activities along the value chain to establish market control. Grossman and Hart (1986) stated that the control and ownership of tangible resources provide room for vertical integration. Hart (1995), Hart and Moore (1990a), Grossman and Hart (1986) were some of the developers of the property rights theory of integration. The theory stated that the inability to perfect contractual agreement between the firm and outside market gladiators triggers the need to integrate vertically. The theory explains the property rights allocation pattern, which includes the ability to make decisions concerning an asset's use when unforeseen contingencies occur or circumstances not included in a contract, changes ex-ante investment incentives. Grossman and Hart (1987) stated that attributing integration to be the owner of assets and not people indicate the evaluation of benefits and costs implication of integration. The authors further explained that the right to control one party necessitates another party's decline to possess absolute control.

Table 1. Comparison of theoretical perspectives of vertical integration

| Excerpts | Transaction Cost Theory | Resource Base Theod | Property Rights Theory |
|------------------------|--|--|---|
| Pioneers of the theory | (Coase, 1937) | (Penrose, 1959) | (Coase, 1960) |
| Developer(s) of theory | (Williamson, 1970; Joskow 1985; Klein <i>et al.</i> , 1978; Goldberg, 1976) | (Wernerfelt 1984; Dierickx and Cool, 1989) | (Grossman and Hart, 1986; Hart 1995; Hart and Moore, 1990b) |
| Concept of theory | Coordination and cost efficiency | Firm's Heterogeneity | Ownership and control of the firm's tangible and intangible as |
| Objective of theory | To reduce cost | To achieve a competitive advantage | To attain control and ownership |
| Determinant of theory | The analysis of make or buy comparison | The competitive advantage of a firm's resources | The result of cost and benefit comparison |
| Theory critique | Lacks operational content, cannot provide empirically verifiable hypotheses (Clarke, 1991) | An organization must be valuable, rare, inimitable and non-sustainable (J. Barney, 2002) | Comparison of cost and benefit is complex (Grossman and Hart, 1986) |

Vertical Integration and Financial Performance

Financial performance is multi-dimensional with multiple measurements (Carton and Hofer, 2010), hence, the need to select the financial measures suitable for this study. Financial performance is the firm's economic position over a given time. It entails gathering and using funds measured by pointers of liquidity, solvency, capital, adequacy ratio, leverage, and profitability (Fatihudin *et al.*, 2018). Financial performance relates to the financial efficiency of the business. It relies on finance information reported mainly in income statements and balance sheets. The other performance variables have a direct or indirect

effect on the financial performance output. Erasmus (2008) defined financial performance as a way of monetizing an organization's operations and policies solely to highlight a given firm's financial strengths and weaknesses. Furthermore, financial performance displays a company's financial position to ensure decision-making efficiency. Bititci *et al.* (2000) asserted that in evaluating a firm's financial performance, relevant data from the organizations' financial statements and other materials are employed to determine, compare and analyze the company's financial status in terms of profitability, and operating conditions, among others.

Mamman *et al.* (2013) examined vertical integration on performance in SMEs and found vertical integration has no significant impact on performance. The author stated further that there is no vertical integration in most SMEs operating in the Kaduna State of Nigeria. In contrast, Andreou *et al.* (2015) showed mixed results of the positive and non-significant impact of vertical integration on performance. Sikuka (2010) studied the financial performance of companies involved in the integration business model and found that integrated companies had high financial performance than non-integrated companies. The author further explained that assets and revenue growth constituted the bulk of integrated companies' financial performance through financial ratios analysis. Jensen and Meckling (1976) highlighted the need for internal expansion of an organization. The authors further explained that the need to meet shareholder's expectations is often the company's priority. Randall *et al.* (1990) pointed out that vertically integrated firms realized devastating outcomes in their financial reports, affecting their financial performance. These findings reflect ambiguity, hence the general hypothesis; *vertical integration has no significance on the financial performance of Olam Nigeria Limited.*

Upstream/Downstream on EBIT/ROI

Upstream vertical integration involves controlling raw materials needed to process finished products, which otherwise would have been supplied by independent contractors or external producers (Liu, 2016). A firm's expansion to upstream integration ensures availability in the supply of its raw materials in a cost-effective manner (Loertscher and Riordan, 2019). Upstream integration relates to the inputs' design for lowering production costs by allowing organizations to supply their primary resources. It provides the courage for organizations to diversify their resources to produce raw materials or control the quantum of materials purchased (Perry, 1982). By implication, the upstream integration strategy ensures a constant supply of resources and becomes more proactive and efficient in their production process. In essence, upstream integration serves two purposes: boosting the firms' input and minimizing transaction costs. By adopting upstream integration, organizations can efficiently manage their value chain and strategically reduce the costs along the supply chain (Nicovich *et al.*, 2007).

The most critical aspect of evaluating an organization's performance is to analyze earnings or returns resulting from the firm's strategic approach. Evaluation gives the company and other stakeholders a vivid understanding of the strategic positioning on investments. Several studies find that the existence of two competing accounting methods affects the value-relevance of earnings (Misund *et al.*, 2008, 2015; Bryant, 2003). One of the notable perimeters used in measuring organizations' performance is the Return on Investment (ROI). Return on investment indicates the extent to which an organization realizes meaningful returns on the use of capital. It equally shows whether or not an organization is solvent (Zamfir *et al.*, 2016). Thus, it enables efficiency assessment of an amount invested or, in other words, ROI allows measuring the result to the means used to obtain it. Hence, the researcher hypothesized that.

H₀: Upstream integration has no significant impact on financial performance in Olam Nigeria Limited.

H₀(a): Upstream integration has no significant impact on return on investment in Olam Nigeria Limited.

H₀(b): Upstream integration has no significant impact on earnings before interest and tax in Olam Nigeria Limited.

Downward vertical integration allows firms to reposition their distribution strategy by ensuring prompt delivery of finished products to their consumers (Wheelen and Hunger, 2011). Put merely, downstream integration provides firms with the liberty to own and control distribution channels that deliver finished products to consumers (Scherer and Ross, 1990). Organizations implementing downstream integration expect to enhance overall performance by ensuring an increase in the demand for finished goods. Furthermore, downstream integration helps organizations distinguish their products from that of competitors, allow easy access to the distribution channel and provide an accurate demand for its

products (Porter, 2008). More importantly, the rate at which an organization would achieve performance depends entirely on the pattern of communication, the use of technical information, and efficiency in the decision-making process (Paulraj *et al.* 2008). Downstream integration arises from the move organizations made to ensure users' satisfaction in the distribution stage by gaining absolute control in distributing finished goods and services to the target markets or providing outlets to ensure seamless sale transactions. Again, acquiring the whole or portion of the control of marketing channels or intermediaries is often regarded as downstream integration (Jobber, 2006). It, therefore, hypothesized that.

H0: Downstream integration has no significant impact on financial performance in Olam Nigeria Limited.

H0 (a): Downstream integration has no significant impact on return on investment in Olam Nigeria Limited.

H0 (b): Downstream integration has no significant impact on earnings before interest and tax in Olam Nigeria Limited.

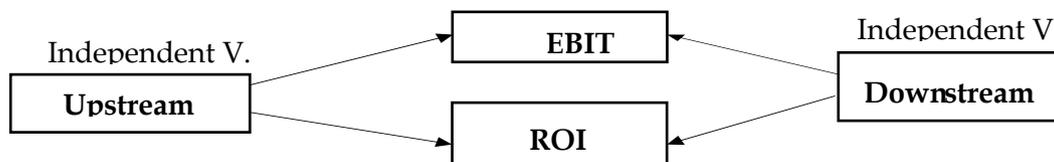


Fig. 1 Conceptual framework, Researchers 2020

Research Methods

Olam Nigeria Limited provides a perfect context to explore the impact of vertical integration on particular financial performance measures, namely Earnings Before Interest and Taxes (EBIT) and Return on Investment (ROI). Olam practices upstream and downstream integration in their operations, as revealed by the pilot study through the interview to five randomly selected supervisory employees from each of these functional areas of Olam: Marketing, Finance, HR, Production, and Sales. The interview consists of six questions: The firm produces its own raw materials (upstream), the firm produces its own package (upstream), the firm does its own package printing (upstream), the firm distributes through other wholesalers (downstream), the firm distributes directly through other retailers (downstream), and the firm distributes directly to customers through its own retail outlets (downstream). The answers to these objective questions were (a) for some of its products, (b) all of its products, (c) none of its products, and all responses confirmed vertical integration in some of the firm's products.

The study was conducted using an explanatory research design, best suited for this study according to Akhtar (2016), who alluded that, contrary to descriptive design, the explanatory design goes beyond observation and description approach attempts to explain the phenomenon's causes. The study population consisted of all staff members of Olam Nigeria Limited, located in Lagos metropolis. Lagos state was preferred not only because it is the country's commercial hub but also the head office of Olam Nigeria Limited. At the time of the study, the firm had a total of 338 full-time employees including managers, inspectors, marketers, and administrative staff. The convenience sampling technique was adopted to distribute the structured questionnaire to 183 employees calculated based on the Taro Yamane Formula at a 5% significance level. 175 questionnaires were returned out of the 183, representing a response rate of 95.6%. The questionnaire was content validated by a research expert, and the Cronbach's Alfa coefficient shows a value of 0.942, indicating high internal consistency among the respondents. Also, secondary data between the 2010 and 2018 was confidentially and reliably obtained from Olam Nigeria Limited. The descriptive statistics and regression analysis were carried out using Statistical Package for Social Sciences (SPSS) version 20.

Findings and discussions

Findings

From the secondary data, on the one hand, the explanation of R-value for upstream investment on return on investment, and upstream investment on EBIT were 0.949 and 0.889, respectively. On the other hand, the explanation of R-value for downstream investment on return on investment, and downstream investment on EBIT were 0.979 and 0.817, respectively. These outcomes are excellent statistical indication of the level of prediction. ANOVA results showed a statistically significant prediction of upstream on ROI,

upstream on EBIT, downstream on ROI, and downstream on EBIT as $F(1, 7) = 66.808$, $F(1, 7) = 26.284$, $F(1, 7) = 163.943$, and $F(1, 7) = 14.043$ with $p < 0.05$, respectively. The unstandardized coefficient, 'B1' for upstream and downstream on ROI is equal to $-1.024e-5$ and $2.4e-6$, indicating a one-unit increase of upstream and downstream investment, which equals a decrease and an increase in ROI of $1.024e-5$ and $2.4e-6$, respectively. In contrast, the unstandardized coefficient, B1, for upstream and downstream on EBIT is equal to 0.246 and -0.157, indicating that a one-unit increase of upstream and downstream investment translates an increase and a decrease in EBIT of 0.246 and 0.157, respectively.

Upstream investment has an insignificant positive and significant positive impact on ROI and EBIT, respectively. In contrast, downstream investment has a significant negative and insignificant negative impact on ROI and EBIT. The following are the regression equations: $ROI = 0.113 + 2.4e-6UVI - 1.024e-5DVI$; and $EBIT = -208.687 + 0.246UVI - 0.157DVI$, where ROI = Return on Investment, EBIT: Earnings Before Interest and Tax, UVI = Upstream Vertical Integration, DVI = Downstream Vertical Integration.

For more clarity, primary data were also used for the regression analysis. The R-values for upstream practices on ROI, upstream practices on EBIT, downstream practices on ROI, and downstream practices on EBIT are 0.701 and 0.697, 0.617, and 0.765 respectively. These outcomes are excellent statistical indication of the level of prediction. ANOVA results showed a statistically significant prediction of upstream on ROI, upstream on EBIT, downstream on ROI, and downstream on EBIT as $F(1, 173) = 167.241$, $F(1, 173) = 163.213$, $F(1, 173) = 106.105$, and $F(1, 173) = 243.584$ with $p < 0.05$, respectively. The unstandardized coefficient, 'B1' for upstream and downstream practices on ROI is equal to 0.580 and 0.239, and EBIT is equivalent to 0.617 and 0.413, respectively. For every upstream and downstream effort, there is an increase in ROI of 0.580 and 0.239, and EBIT of 0.617 and 0.413. Overall, the results showed that upstream and downstream integration practices have a statistically significant positive impact on both ROI and EBIT.

The following are the regression equations: $ROI = 1.786 + 0.580UVI - 0.239DVI$; and $EBIT = -1.032 + 0.617UVI + 0.413DVI$

Table 2. Test of hypotheses

| Research Hypotheses | | P-Value | Conclusions |
|---|--|----------------------------------|---------------------------------------|
| H₀ : Upstream integration has no significant impact on financial performance in Olam Nigeria Limited. | H₀ (a) : Upstream integration has no significant impact on return on investment in Olam Nigeria Limited. | Secondary data: 0.461 >5% | H _{0(a)} was supported. |
| | | Primary data: 0.000 <5% | H _{0 (a)} was not supported. |
| | H₀ (b) : Upstream integration has no significant impact on earnings before interest and tax in Olam Nigeria Limited. | Secondary data: 0.023 <5% | H _{0(b)} was not supported. |
| | | Primary data: 0.000 <5% | H _{0(b)} was not supported. |
| H₀ : Downstream integration has no significant impact on financial performance in Olam Nigeria Limited. | H₀ (a) : Downstream integration has no significant impact on return on investment in Olam Nigeria Limited. | Secondary data: 0.019 <5% | H _{0 (a)} was not supported. |
| | | Primary data: 0.000 <5% | H _{0 (a)} was not supported. |
| | H₀ (b) : Downstream integration has no significant impact on earnings before interest and tax in Olam Nigeria Limited. | Secondary data: 0.106 >5% | H _{0(b)} was supported. |
| | | Primary data: 0.000 <5% | H _{0(b)} was not supported. |

Discussion

The idea of embarking on vertical integration strategy is to expand its value chain, maximize profit, optimize resources, control the market, and gain competitive advantage. Generally, there are two significant aspects of vertical integration: upstream integration and downstream integration. Previous studies have shown that vertical integration is one of the firms' strategies to improve performance towards a competitive edge. Thus, this study focused on the impact of vertical integration on the financial performance of Olam Nigeria Limited. Specifically, the research aimed to ascertain the impact of upstream

integration on ROI, the impact of upstream integration on EBIT, the impact of downstream integration on ROI, as well as the impact of downstream integration on earnings EBIT in Olam Nigeria Limited.

The pre-test findings show that Olam Nigeria Limited engages in both the upstream and downstream integration practices. Broadly, the primary and secondary empirical evidence showed a positive impact of vertical integration components on financial performance measures. The broad findings from the primary data were consistent with the secondary data findings. However, the secondary data indicates that there is no significant impact of upstream integration on return on investment, and no significant impact of downstream integration on earnings before interest and tax. In support of the insignificance in the secondary data findings, Adelman (1955) found that a "high degree of VI is not always the most profitable." They suggest that organizations may profit more from backward strategy. Also, Buzzel (1983) found that ROI declines as firms increase raw and semi-finished materials production.

Additionally, it has been established that primary data is more reliable than secondary data because secondary data are challenging to verify. They can be exaggerated or manipulated before organizations make them available for public consumption (Schneeweiss, 2007; Hoffmann et al., 2008; Cole and Trinh, 2017; Squitieri and Chung, 2020).

Vertical integration is often a long-term, capital-intensive investment, and it may be challenging to get a good measure of the impact on performance using cross-sectional data of 9 years' period. Nevertheless, the findings from the primary data show uniformity, a positive impact of vertical integration (upstream and downstream) on financial performance (earnings before interest and tax and return on investment). Overall, it can be concluded that there is a significant positive impact of downstream and upstream integration practices on the financial performance (ROI and EBIT) of Olam Nigeria Limited. This finding is supported by previous empirical studies such as the study of Maroof et al. (2017), Gil and Warzynski (2009), and Forbes and Lederman, (2010).

Conclusion, implications, and limitations

The study found that the vertical integration ensures the positive progression of its financial performance. Specifically, the results show a statistically significant impact of vertical integration investment and practices on earnings before interest and tax and the return on investment. The findings supported the assertion of (Dichev et al., 2012) that the organization's specific strategy can change the company's reported earnings. The study found that upstream vertical integration intervention boosts earnings and return on investment during the review period. The findings on descriptive analysis of the impact of the firm's production of raw materials on production cost, profit, and sales revenue is averagely 59%. Olam Nigeria Limited achieves success in their earnings and return on investment because of upstream integration practices. In addition, the downstream sector of Olam Nigeria Limited recorded a direct relationship with earnings and returned investment. The downstream integration enables an organization to contact customers through the distribution of finished products directly. The positive relationship could also result from the timely delivery of finished products through the combination of the wholesaling and retailing channels of distribution.

Theoretically, the study supports the transaction cost theory concerning vertical integration decision, and transaction cost theory involves a cost-benefit analysis to guide the decision. Practically, the study was carried out on an existing firm, and the study findings are an independent report and guide for the firm as it builds its operation. Academically, the study becomes an addition to the literature for future research in this area. The following recommendations are based on the study findings: Firms should consider vertical integration strategy when trying to be cost-effective in the long run. Firms should be guided by their objective, available resources, and cost-benefit when considering vertical integration action. The vertically integrated firm should embrace third parties' participation or partnership in pre- and post-production integration. These recommendations will help the firms, especially in an emerging market like Nigeria, meet market needs, go beyond their expectations, and improve their performance.

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An investigation of the prevalence of stress among graduate and post-graduate Indian students during COVID 19 pandemic by means of factor analysis

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Keywords

Emotional resilience, COVID 19, stress management, pandemic, HEI, academic excellence

Abstract

Objective: Since December 2019, the COVID-19 pandemic has posed a considerable threat with its associated high mortality, infection, and hazard of physical, mental, emotional, financial, and spiritual stress (WHO, 2020). A large number of students are affected due to a chronic break from classroom academic activities, the pressure of being hired for an internship or final placement and staying at home. The main focus of this learning is to know the stressors of graduate and post-graduate Indian students and their major hurdles during the COVID-19 lockdown. Further, the study aims to facilitate a proposed model of training, by combining 7 psychosocial variables of emotional resilience which might empower the students to cater to stressors and improve personal, academic, and professional effectiveness (Chen et.al, 2020; Horesch et.al, 2020)

Methods: Using a convenience method, an internet survey of the 6-item COVID-19 Student Stress Questionnaire (CSSQ) (modified version Zurlo et.al, 2020) was conducted on students across India. together with their demographic details, the participants also reported their study patterns and challenges during their confinement period. The statistical scores for the responses were calculated and also the demographic variables analyzed using the factor analysis technique. (Ahorsu et.al,2020)

Findings, discussion, and implications: The findings suggest that self-awareness, self-regulation, mental agility, optimism, self-efficacy, sense of belonging and psychological safety may be the important emotional resilience to be developed among the Indian students to cope with physical, mental, emotional, financial, and spiritual stressors confronted by them during COVID 19 pandemic to increase personal and professional effectiveness (Maria et.al, 2020, Zurlo et.al. 2017)

Conclusion: The study has several practical implications for counseling psychologists, academicians, parents, life coaches handling youth and mental health workers related to the graduate and post-graduate education sector (Taylor et.al, 2020; Sahu et.al, 2020).

Introduction

COVID-19 outbreak had impacted mankind phenomenally. The subsequent lockdown and social distancing affected youth considerably, especially as the academic institutions operated online, social gatherings were not permitted globally. Further this lockdown had economic implications and loss of job opportunities, affected the emotional security of youths.

The COVID-19 pandemic has created the most severe disruption to global education systems in history. India's higher education system is the world's third largest in terms of students, next to China and the United States. In future, India will be one of the largest education hubs. In India over 39,000 Colleges and over 18000 Post Graduate Institutions of Higher Education Institution (HEI) cater to 27.5 million undergraduate and over four million postgraduates in India. Over 3.4 million Indian students enrolled in higher education would be affected psychologically due to the Covid19 Pandemic, (Margaritis et.al, 2020).

The pandemic and the lockdown, self-quarantine, social distancing, and self-isolation, all have had a negative impact on mental health. Concerns about one's own health and that of their beloved ones (particularly elderly or suffering from any physical illness), as well as uncertainty about the future are some of the signs of mental illness. Youths also experienced a range of emotions including distress, grief, insomnia, anger, depression and fear of the future. It also mentioned mood swing, emotional imbalance, irritability and fatigue. (Fiorillo A, Gorwood P, 2020)

According to the transactional model of stress coping developed by Lazarus and Folkman (1984), involves both intellectual and behavioural retorts that individuals use in an effort to manage internal and/or external stressors. Stress coping mechanism depends on the constant interaction between individual factors (e.g., age, gender) and situational factors, thus requiring needing into consideration specificities of target populations.

Ministry of HRD, Government of India, have given a platform to address the emerging needs and concerns and the psychological stress and mental wellbeing of the youths from diverse backgrounds, needs and aspirations from all across India, by launching a National Toll-Free No and a website, "Manodarpan" to monitor and promote mental health issues and concerns and give psychological support for mental wellbeing during Covid19.

As per the recent survey conducted by WHO (2020), the young population is at lesser risk in term of developing Covid 19 or related physical wellbeing, however it has disrupted their access to education and employment. Further, being unemployed at a young age can have long-lasting "scarring effects" regarding their career path and future earnings. (Heckman and Borjas, 1980; Ellwood, 1982 as cited in OECD Report, 2020). Further as regards India, job loss among youth will continue throughout 2020 and could result in youth unemployment rates doubling. As per the report of ILO (April 2020), over 6 million youths in India will lose jobs and the rate of unemployment would touch around 30% by 2021.

During the lockdown, youth spent extra time on the social media, which further intensified their stress levels and led to depression, anxiety, body image, and poor sleep. (Hamilton, J et al;2020). Lockdown also affected physical mobility and increase sedentary behaviour among youth. Physical activity is essential for a healthy, active lifestyle which in turn affects the value of life of the youth.

The study documents the mental health of youth from University of Mumbai - undergraduate, postgraduate and working executive, to assess the perceived stress of students during Covid19. The study adapted the COVID-19 Student Stress Questionnaire (CSSQ), which has been empirically tested on Italian University students and is cited. (Zurlo et al; 2020) .

Literature review

Covid-19 which is probably one of the worst pandemics in the history has deep rooted impact globally on various nations, economies and sectors. The consequence of several lockdowns post March 2020 in India too has affected various sectors of Indian economy to its core.

India's higher education system is the third largest in the world, next to the United States and China India is a young country with over 500 million in the age bracket of 5-24 years, which gives it a demographic dividend and provides bright prospects for the education sector (<https://www.worldbank.org/en/publication/wdr2020>). Every dimension of human existence has been completely shaken by the sudden spread of COVID-19 and subsequent lockdowns after the same. Indian Higher Education Institution (HEI) sector, was no exception which saw sever impact of the pandemic significantly (Jena, 2020).

Over 60% of young learners across the globe, have been severely affected by this Covid19 pandemic (UNESCO, 2020). Further over 1.1 billion student's educations has been hindered by closure of colleges and universities and emergency remote learning. In India over 30 crore students studying in various schools, colleges and universities were forced to continue their education post lockdown without much of preparation and several restrictions (The Print,2020)

The main stressors during a pandemic as cited by Zurlo et al;(2020) are the following: risk of contagion (Brooks et al., 2020; Xiang et al., 2020); Social isolation and social exclusion; Their Relationship with their Family; Their Relationship with their Friends; Their Relationship with their Professors; Academic Studies and Related Stress. As cited by Zurlo et al ; (Oct 2020), in a review conducted by Brooks et al. (2020) there was a huge impact on the psychology of the respondents during quarantine periods, chief among them was the dread of contagion, anxiety and frustration related to inadequate supplies of medicines and daily necessities as also inadequate information from the public health authorities, a sense of loneliness, due to loss of socialisation and routine work. Further, Zurlo et al; (2020) state that the lockdown and closure of HEI, led to Fear of Missing Out (FOMO) and deeply impacted the personal and emotional lives of youngsters.

Further, the youngsters were anxious about their own health and the health of the members of their family. Since there was no physical connect, their relationship with friends and Professors lost the connect and as such were one of the stressors. Online teaching learning posed another stress amongst the youngsters.

It is apparent that the profound psychological and social impacts of the pandemic are inescapable, and it is the need of the hour to take steps in building resilience and coping with such damaging consequences of a pandemic. One of the objectives of the present study was the need for immediate intervention in the form of a training programme to empower the students with emotional resilience. Hence, we introduce the concept.

Fredrickson (1998) define resilience as characterized by the power to retrieve from negative emotional experiences and by flexible adaptation to the dynamic demands of stressful experiences. The term resilience, can be traced to the Latin verb *resilire* which suggests rebounding or "leap back." Resilience might be a term utilized in several fields originally coming back from ecology; with resilience denoting the flexibleness of an ecosystem to recover or avert harm once disturbed. It is most suited as a psychological response.

Bonanno et.al (2018) projected that resilience is that the flexibility to "maintain a stable equilibrium" it completely was projected that resilience is distinct from recovery that resilience is common. Bonanno reports that resilience is that the foremost frequent or modal outcome in response to adversity.

Additional merely Infurna et al. (2016) have outlined resilience as; "A dynamic method encircling positive adaptation inside the context of significant adversity" (p. 543). Being an active process, resilience throughout this conceptualization is considered by constant amendment, activity, or progress. Resilience is context-specific with a private doubtless being extremely resilient in one context however not in another. (Armstrong et.al, 2011)

The construct of resilience has been studied since the first Nineteen Seventies. Initial analysis throughout this area investigated the thought of resilience in poor and neglected youngsters; noting that not all youngsters exposed to neglect, and financial condition have the identical outcomes. Specifically, some kids grew up and prospered despite the adversity whereas others languished. Initially, these kids were determined as being 'invulnerable' as opposed to resilient (Galatzer, 2018). As at presently the thought was fashioned as being either gift or absent in folks and world as opposition relative and contextualized. As analysis a lot of progressed it became seeming that resilience was every relative and contextualized, consequentially the term invulnerable lost favor. (Davidson, 2000)

For the purpose of this research resilience is defined as the ability to recover from adversity and also the flexibility to grow from challenges (Lei et.al, 2020)

A person's capacity to bounce back, once resilience is determined by one's psychological makeup, one's social relationships and interactions, which are called psychosocial aspects of resilience for this study (Dr. Karen and others, 2003). It encompasses the learnings from all the four waves of research related to resilience. We further document the seven variables of Emotional Resilience which include - Self-awareness, Self-regulation, Mental agility, Optimism, Self-efficacy, Connection, Positive institutions

These aspects are going to be discussed in detail within the implications of the study

Research Objectives

The objectives of the present study:

The study aims to assess the impact of the COVID-19 outbreak on the mental health of the youths of University of Mumbai, India.

The study aims to study the stressors which impacts the mental health of the youths of University of Mumbai, India.

The study documents various measures of the Government of India taken for motivating the youth for a positive mindset and the proposed model of training for these youths to build and nurture their emotional resilience.

Based on the above, the research questions for the present study are summarized as below:

To study, the impact of the COVID-19 outbreaks on the mental health of the youths of University of Mumbai, India.

To outline, the stressors which impacts the mental health of the youths of University of Mumbai, India.

To describe the various measures of the Government of India taken for motivating the youth for a positive mindset and the proposed model of training for these youths to build and nurture their emotional resilience.

Questionnaire Focal Construct:

Construct validity is established empirically to prove that a survey differentiates between people who do and do not have certain features. Globally, COVID-19-related control measures levied lockdown of workplaces as well as HEI. This lockdown, social distancing, had a profound impact on personal and emotional lives of youths, who experienced doubt, state of mind of seclusion, and sense of "losses" in terms of drive, sense, and self-worth (Williams et al., 2020).

Zurlo et al. COVID-19 Student Stress Questionnaire, (Oct 2020). It is a 7-item COVID-19 Student Stress Questionnaire (CSSQ), a dimension tool to assess COVID-19-related sources of stress among university students, established by Zurlo et al; (Oct 2020) was used. CSSQ was earlier and authenticated with 514 Italian university students through Exploratory Factor Analysis (EFA) in the study conducted by Zurlo et al; (Oct,2020) which focused on assessment of the sources of stress associated with Covid 19 pandemic lockdown among university students, namely the COVID-19 Student Stress Questionnaire (CSSQ).

Method : Participants : The youths who were sent the questionnaires were grouped in three categories : 1) Undergraduate Students of University of Mumbai 2) Post Graduate Students of University of Mumbai 3) New Recruits of University of Mumbai who have less than 2 year's work experience.

A total of 108 youths in the age group of 18- 25 from the city of Mumbai, who were undergraduate, postgraduate, Alumni of University of Mumbai participated in this survey.

Research Methodology

The research design focuses on quantitative research study by means of using statistical analysis tool factor analysis to determine important physical, financial, emotional, mental, and spiritual stressors which graduate and post-graduate students might be dealing with COVID 19 pandemic (Zurlo et al. COVID-19 Student Stress Questionnaire). In this study use is created of form and informal interviews, for gathering the first information and secondary information is gathered by means that of printed and unpublished paper and electronic sources like journals, newspaper, articles etc (Conway, et.al ;2006). For the aim of primary information collection form was circulated to a hundred graduate and post graduate students from Mumbai using convenience sampling technique. For the analysis underneath study, the tool used for information analysis was correlational analysis. The Cronbach α value is among permissible limits to hold factor analysis.

H₀: There is no internal consistency and reliability among the variables selected in the study for conducting factor analysis focusing on important stressors which graduate and post-graduate students might be dealing with COVID 19 pandemic

H₁: There is an internal consistency and reliability among the variables selected in the study for conducting factor analysis focusing on important stressors which graduate and post-graduate students might be dealing with COVID 19 pandemic

From the study of the literature, following parameters are considered as important with respect to stressors which graduate and post-graduate students might be dealing with COVID 19 pandemic:

Contagion Risk

Social Isolation

Relationship with family

Relationship with friends

Relationship with professors

Academic study stress

Data Analysis

Multivariate statistical analysis tool factor analysis is used to determine the important stressors which graduate and post-graduate students might be dealing with COVID 19 pandemic

Correlation Matrix^a

| | | Contagion | SocialIsolation | relatives | friends | Professors |
|-----------------|-----------------|-----------|-----------------|-----------|---------|------------|
| Correlation | Contagion | 1.000 | .566 | -.060 | .095 | .251 |
| | SocialIsolation | .566 | 1.000 | .012 | -.043 | .069 |
| | relatives | -.060 | .012 | 1.000 | .734 | .377 |
| | friends | .095 | -.043 | .734 | 1.000 | .420 |
| | Professors | .251 | .069 | .377 | .420 | 1.000 |
| Sig. (1-tailed) | Contagion | | .000 | .284 | .181 | .007 |
| | SocialIsolation | .000 | | .453 | .340 | .253 |
| | relatives | .284 | .453 | | .000 | .000 |
| | friends | .181 | .340 | .000 | | .000 |
| | Professors | .007 | .253 | .000 | .000 | |

a. Determinant = .211

Table 1: Correlation matrix

Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.071 | 41.419 | 41.419 | 2.071 | 41.419 | 41.419 | 1.747 | 34.940 | 34.940 |
| 2 | 1.586 | 31.715 | 73.134 | 1.586 | 31.715 | 73.134 | 1.556 | 31.122 | 66.062 |
| 3 | .693 | 13.869 | 87.003 | .693 | 13.869 | 87.003 | 1.047 | 20.940 | 87.003 |
| 4 | .438 | 8.759 | 95.762 | | | | | | |
| 5 | .212 | 4.238 | 100.000 | | | | | | |

Extraction Method: Principal Component Analysis.

Table 2: Total variance explained

Rotated Component Matrix^a

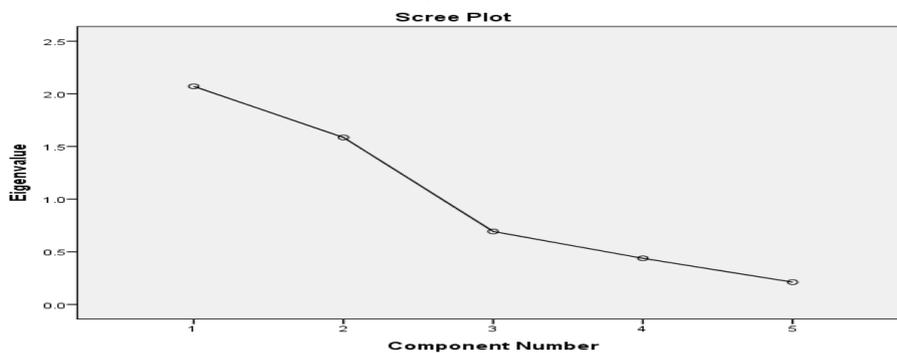
| | Component | | |
|-----------------|-----------|------|------|
| | 1 | 2 | 3 |
| Contagion | | .839 | |
| SocialIsolation | | .918 | |
| relatives | .940 | | |
| friends | .884 | | |
| Professors | | | .924 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Table 3: Rotated component matrix

Based on the table 2 and table 3, the following graph which is called as Scree Plot is plotted to know the number of factors which is available in the analysis.



Graph 1. Scree Plot

From the above graph of Scree plot 1, it can be concluded that the factors having the Eigen values more than 1 have to be considered. This study determines 3 factors.

Interpretation (From Table 2)

From the Table 2 of Component Matrix, it can be seen that the following factors can be classified as follows:

Factor 1

Relationship with family

Relationship with friend

Factor 1 can be renamed as Connection

Factor 2

Contagion

Social isolation

Factor 2 can be termed as Optimism

Factor 3

Relationship with professors and stakeholders in associated college

Factor 3 can be renamed as Positive institutions

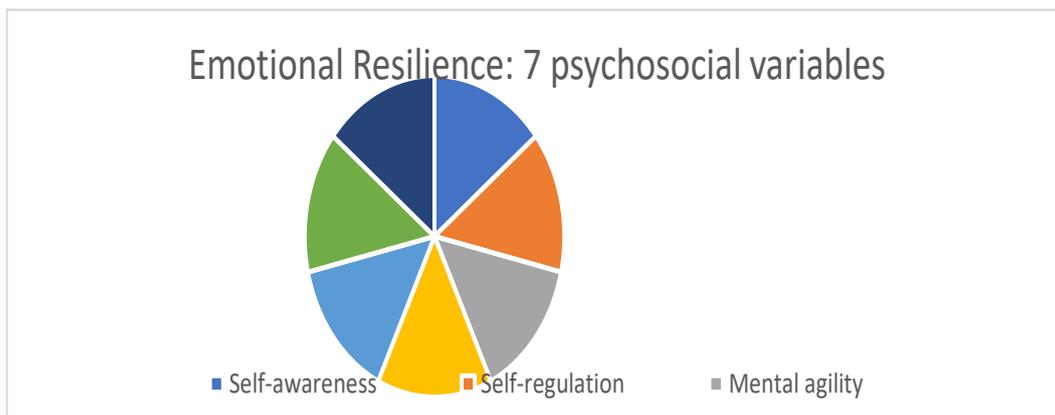
With the results of the statistical analysis, coupled with the formal and informal online discussions with the graduate and post-graduate students in Mumbai it can be concluded that the important stressors they face are connected to lack of connection in form of relationship issues with family and friends; lack of optimism in form of fear of contagion or social isolation; lack of presence of positive institutions in form of relationship with professors and different stakeholders in the HEI they are associated with. A major part of their personal and professional effectiveness will involve handling the emotional responses of self and other stakeholders and so it is essential that they get an equipped with emotional intelligence psychosocial variables. (Lima et.al, 2020)

Findings, Discussions, and Implications

The role of adversity, stress, and negative life events within the genesis of mental state has been recognized since the dawn of psychiatry. The character and strength of the adversity might be large or small and therefore the individual may or might not succumb to subsequent mental disease. That's the individual's reaction to the stressor and their subsequent adaption (or lack of adaption) is extremely idiosyncratic and contextualized (Armstrong et.al, 2011). Specifically, a person may adapt to a selected stressor or negative life event but fail to adapt to a different one. Thus, it absolutely was noted that not all individuals exposed to adversity and negative life events persist to develop a psychological state and have poor outcomes.

Moreover, it had been apparent that some individuals could suffer the foremost distressing negative events or situations and recover or maybe prosper after the adversity. Thus, it became seeming that the phenomenon of resilience had a protective effect for a few individuals. Hence, the study of resilience began. This text reviews research on resilience over the decades so as to describe the potential future focuses for resilience research and positing.

Proposed model: 7 psychosocial variables to deal with the stressors (Dr. Karen et.al,2003)



Self-awareness

Self-awareness is the ability to specialize in yourself and the way your actions, thoughts, or emotions do or do not align along with your internal standards. If you are extremely self-conscious, you'll objectively appraise yourself, manage your emotions, align your behavior along with your values, and perceive properly how others understand you.

Self-regulation

Self-regulation is that the ability to watch and accomplish your energy states, emotions, feelings, and actions in ways in which are adequate and produce positive results like well-being, and learning.

Mental agility

Mental agility indicates the flexibility of a person to think, learn and quickly absorb new information, systems, and processes, in other words, it stands for the way well our mind can comply with new circumstances.

Optimism

The term derives from the Latin optimum, meaning "best". Being optimistic, within the meaning of the word, is defined as expecting the simplest possible outcome from any given situation. This is often usually said in psychology as dispositional optimism. Optimism may be a knowledge characterized by hope and confidence in success and a positive future. Optimists are those that expect good things to happen, where pessimists instead predict unfavorable outcomes. Optimistic attitudes are connected to variety of advantages, including higher coping skills, lower stress levels, higher physical health, and better persistence when following goals.

Connection

Families with close ties to friends, family, and community groups are likely to own a tougher sense of safety and sense of belonging. These children are more likely to own durable morals and are less likely to hunt out alternative destructive behaviors. In our groups, we foster a way of have its place and we discuss ways your children can strengthen their ties by being an honest friend, a caring loved one, and a vital community member.

Self-efficacy

According to Albert Bandura, self-efficacy is "the confidence in one's capabilities to arrange and execute the courses of action required to accomplish prospective situations." Self-efficacy may be a person's confidence in his or her capability to achieve a specific situation. Bandura described these beliefs as determinants of how people think, behave, and feel

Positive institutions

Positive institutions are defined as "establishments and measured practices in culture or civilization that serve to uplift and mature our highest human assets, combine and increase those strengths, and refract our highest assets outward in world promoting ways leading, eventually, to a world of full-spectrum flourishing.

Limitations

The current study is limited as generalization of the result is difficult as data is collected only from graduate and post-graduate students from Mumbai. The confidentiality with respect to names of respondents from whom data is obtained is also a limitation as the colleges to which respondents are associated and respondents requested for the confidentiality.

Initiatives of Government of India, Ministry of HRD

In the present study we also document some of the initiatives of the Government of India, taken with respect to starting a website and helpline is to safeguard the mental health of the school /college students to cope effectively caused due the stress of the pandemic and lockdown. The constant coverage of news regarding the pandemic has resulted in a range of responses, particularly for students who may have been the victims, or their family members were affected by the virus. Their response could affect mental and physical health and wellbeing.

Scope of the Research

The scope of the future research is to test if the proposed structured model suggested in this research study which integrates the 7 psychosocial variables of emotional resilience do impact the personal and professional effectiveness by means of appropriate statistical tool. The longitudinal time series studies can be conducted to check the practical application of the proposed model in HEI in India and globally also so that the findings of the study can be generalized for education sector

Conclusion

The findings of the research under study have several practical implications for counselling psychologists, academicians, parents, life coaches handling youth and psychological state workers related

to the graduate and post graduate education sector. These findings will put them during a better position to style interventions to reinforce resilience in students within the setting of the significance of both optimistic and damaging mental state during the outburst of diseases and other challenges faced in personal life and vocation.

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Thailand 4.0: A new value-based economy and its implication on wellness business

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Keyword

Healthcare and Wellness Tourism; Neo-Authoritarian Developmental State; Public Policy; Value-Based Economy; Small and Medium Sized Enterprises (SMEs)

Abstract

The research aims to explain Thailand's value-based economy and its implications on wellness business. The research uses political and management theories namely, developmental state theory, neo-authoritarian developmental state theory, social network theory, social capital theory, diffusion of innovation theory, resource-based theory, and image theory to portray and applied into the case.

Moreover, the research is qualitative research by nature as it uses semi-structure interviews and focus groups to find the answers. The main finding of this research is that since 2002 where the Thai government has set "Medical and Wellness Tourism" as the country's development strategy to make Thailand a "hub" for medical and wellness tourism – though the country's politics has faced two coup d'états and the country's administrations have been rough as it is controlled by different political groups – both, civilian and military, governments have followed the strategy and have highlighted medical and wellness business sector as one of their development strategies as well as policies.

The conclusion of the research is that the military government has stepped forward from solely being authoritarian state and transform the country to become a neo-authoritarian developmental state where it practices capitalism while limits people participation in politics. On top of that, the state implements policies that benefit healthcare and wellness industry, especially SMEs, to assure that it achieves the goal of being a medical and wellness hub of the region.

Introduction

In the past, Thailand had been developing the country's economy via its competitive advantage in rich natural resources and diverse biography and invested most its capital and attention in the agriculture sector, which is the 1.0 economic development phase. Then it entered the 2.0 and 3.0 phases, where the country earned the income from light industries and heavy industries, respectively. However, Thailand still faced 3 traps that blocked it from achieving expected economic growth, namely middle-income trap: inequality trap and imbalance trap. These traps combined with structural problems led to the country low competitiveness in economic development. Therefore, to frame economic development for 20 years (2017 – 2036 B.E.) forward, the government has come up with Thailand 4.0 economic development strategies that shifts the focus into innovation-based development and to connect the country's economy to the global level. (Ministry of Industry, 2016)

According to Thailand 4.0 economic development frame, the industry sector must have at least 4.5% annual growth rate and at least 10% annual investment growth rate with 8% annual export growth rate and at least 2.0% total factor productivity (TFP) growth rate per year. Those will add up Thailand to become a high-income country in 2036 as planned. Apart from that, the 20-year industry development framework will also upgrade the country's capability and global competitiveness while also creates tremendous jobs for Thais and generates income to the country, that eventually responses to the motto "Security, Wealth and Sustainability" that the government has high hope for. (Ministry of Industry, 2016)

Thailand and its political economic background

Military and business have had strong ties since the era of military dictatorship where the military would construct a business-friendly environment for its “friends” as big business provided support for democratic transition in 1973 (Pasuk and Baker, 2004. Pp. 12 - 13). In Thai parliamentary politics, “elections were fought through vote buying, patronage, pork barrel, and professional violence”, and gradually businessmen entered politics to secure their power and privilege and slowly pushing military officers out of political positions (Pasuk and Baker, 2004. Pp. 13 - 14). From friendship, relations between military and business have shifted to political rivalry at times as there were 3 coups after political transition after General Prem Tinsulanonda stepped down from his eight-year-long premiership. The transition was followed by the Black May incident of 1992 that middleclass Thais gathered to overthrow military government, demanding democracy. After the incident, the country had restored parliamentary where Bangkok’s banking and provincial business secured its strong representation within highly fragment political party system and weak coalition government (Owen, 2014. pp. 122).

In 2001, Thaksin, a telecommunication business mogul turned politician, was elected and was the first prime minister to survive a full four-year term of premiership and was reelected again in 2005. Due to policy corruption and conflict of interests in Thaksin’s government, in 2006, middleclass Thais, once again, gathered under People’s Alliance for Democracy (PAD) to overthrow his elected government. On September 19th, 2006, Thailand faced its 18th coup and the first coup after its proud “People Constitution” of 1997. The coup brought about a series of constitution drafting and election which Thaksin’s affiliated party won and was able to set up a new government just to be overthrown again. After the 2006 coup, Thailand has been repeating its cycle of coup, constitution and election that the nation eventually encountered the latest coup on May 22nd, 2014, which is less than 8 years apart from the previous coup. Repetitive scenarios of coup, constitution and election portray ties between business and politics and their impacts on the quality of democracy. It shows that politics, including electoral politics, are backed by the bureaucracy and military who hold the real power behind the electoral theatre. Both military and political parties use development and economic growth as justification to retain power.

Looking at the examples of South Korea, Taiwan and Japan, developmental state does not require the state to be authoritarian in order to be qualified as a developmental state. On the other hand, there are many cases of authoritarian countries that failed miserably in developing their economies, such as authoritarian Latin American states under bureaucratic authoritarianism. Therefore, though authoritarianism can facilitate effective intervention in economic and development policies, it does not guarantee economic success (Woo-Cumings, 1999. Pp.52)

Additionally, in globalization era, though it is more difficult for a state to intervene economic policies – because the state must endure international political economic rules of embedded neoliberalism that supports free market, privatization of public enterprises and monetary reform – a neo-developmental state could also adapt itself to cope with democracy and democratic institutional structures and agents that attached to the regime. Hence, that does not mean that the state roles in managing its economy have weaken or ended in globalization era, rather the state has adapted itself to cope with globalization (Micklethwait & Wooldridge, 2014) (Owen, 2014) (Pongpaichit & Baker, 2004).

Southeast Asian’s developmental state model was created during Lee Kuan Yew’s premiership from 1959 - 1990. His opponents were sent to jails and Singaporeans were treated like children. Lee created Singaporean state with components of a modern state, then added the Asian values to it. The Asian alternative of Singapore’s model is different from the Western state where “the government should be democratic and generous” because, to the Singaporean model, “the government is elitist and stingy” (Micklethwait and Wooldridge, 2014. Pp. 133 - 137). The model was drawn from Lee’s assumptions that Western democracy was no longer efficient; both capitalism and society need to be directed; and getting the government right is the key to the regime’s survival and success (Micklethwait and Wooldridge, 2014. Pp. 145).

While Singapore provides an Asian alternative with elitist and stingy government model, China is a more brutal version. Chinese state directs both public and private sectors, especially state-owned companies that dominate strategic industries. More importantly, China’s state capital has gone global as its companies have been reaching out abroad. For example, there are several Chinese companies pursuing

oil, timber, diamonds, copper and iron ore in Africa while other Chinese businessmen are building infrastructures to facilitate the upcoming transactions at site. Therefore, to China, state capitalism has become its main foreign activity (Micklethwait and Wooldridge, 2014. Pp. 146 – 153).

Thailand's nationalism has played its part in the new innovative *Pracharat* development strategies. The word "*Pracharat*" was selected from the lyrics of the national anthem. The development strategies aim to mobilize the grassroots economy as well as the national economic performance as a whole (The Royal Thai Government, 2015). Expected contents of the strategies include sufficiency economy, green farming, holistic development, livelihood rights, people's participation, bottom-up planning, environmental conservation, and local resource management (Bangkok Post Newspaper, 2015). The *Pracharat* development strategies will also be included in the 20-year national strategic plan which focuses on sufficiency economy, people-centered development with active participation, promotion and encouragement of national reform, and national development under the vision of "stability, prosperity, and sustainability" (The Royal Thai Government, 2015).

Thailand 4.0 with Wellness Business as A New S-Curve

The mentioned 3 traps obstruct country's economic development, that is why the country has come up with the new economic development strategies which is Thailand 4.0 model that is comprised of 3 engines of growth.

Productive growth engine. This engine is to move Thailand from middle-income country to high-income country. It is driven by innovation, wisdom, technology and creativity. This cluster aims to foster research and development capabilities and support innovation-led business. Therefore, this productive growth engine shows the effort to overcome the middle-income trap.

Inclusive growth engine. This engine aims for income distribution and to create equal opportunity and wealth to response to all social and economic challenges. This engine, also, aims to achieve a build of provincial economic cluster networks and grassroot economic at a community level, to support social enterprises, to create business-friendly environment, to empower SMEs' international competitiveness and to create skilled labor to response to changes in the future. Hence, this inclusive growth engine is there for overcoming inequality trap.

Green growth engine. This engine aims for renewable energy consumption. That is, it shifts from cost advantage method in the past to the more sustainable method, lost advantage. The key to lost advantage is to improve production process so that it affects as least as it can to the environment. This benefits the country and the globe at the same time because the environmentally friendly production process is the answer of how we conquer imbalance trap we have faced in reality.

These 3 engines of Thailand 4.0 model will lead Thailand to become a high-income country where the wealth is well distributed and green/environmentally friendly economic is practices which are the main character of the first world country that Thailand will achieve the status with in the 21st century. (Ministry of Industry, 2016)

According to Health Systems Research Institute (HSRI), Thailand has faced changes in various dimensions that affect health systems. It proposes 11 dimensions of changes, namely consuming and living behaviors; urbanization; aging society; reasonable drug use; environmental change; market competition and investment; technological development; preventable diseases; higher spending on health-related activities; healthcare human resource management and inequality in health system (Thailand Board of Investment, 2018).

As well, the Thai government has set "Medical and Wellness Tourism" as the country's development strategy to make Thailand a "hub" for medical and wellness tourism activities since 2002. (Thailand Board of Investment, 2018). With medical and wellness tourism as a "new s-curve" innovation is to ensure that Thailand's economy will continuously develops. That is, the country will profit from the new wave of innovation, while the first s-curve, or the heavy-industry based economy in the past, will eventually fade out. (Ministry of Industry, 2016)

The first s-curve is the industry that Thailand has capabilities to produce, and it is a potential industry that had created tremendous economic value, but it lacked technological improvement and generate low growth rate. On the other hand, the new s-curve industry is a new industry that has intense use of technology and innovation. This is the industry that has great potential growth in the future.

However, as it is a new industry that acquires low number of players, it requires that the relevant actors must support the industry in order to make it strong and highly competitive in the near future (Ministry of Industry, 2016).

One of the strategies is to reform the Thai industry sector into an innovation industry. To elaborate, the strategy is to transform from production-based activities to innovation and technological based activities by empowering the industry's competitiveness to level up production standard and to create new innovations with digital technology as a key tool. This is to build a network of "Innovation Driven Entrepreneurship" (IDE) who uses innovation and technology in their activities and to support the aggregation of industry cluster. This SPRING strategy is to level up standard, productivity, and innovation. Apart from that to craft sustainable development, the country needs to support green growth industry and cultural and creative entrepreneurs to assure that they achieve 5 elements of development: productivity; standardize; innovation; green growth enterprise and cultural and creative enterprise (Ministry of Industry, 2016).

Wellness business is seen as a new s-curve actor. To elaborate that, the Thailand 4.0 model puts the wellness business, as a new s-curve economic actor, development into following 4 phases.

For 1-2-year timeframe: the strategy is to strengthen new s-curve business/start-ups and to craft them into "New Economic Warrior"; to promote smart SMEs and to develop SMEs Rescue Center and Cultural Industrial Village

For 2-5-year timeframe: the strategy is to accelerate start-ups; to increase the number of smart SMEs; to connect SMEs with Les and to support industry networking

For 2-10-year timeframe: the strategy is to support the Thai entrepreneurs to be known internationally and to connect the Thai entrepreneurs to the high-valued chains in the international market.

For 10-20-year timeframe: the strategy is to push the Thai entrepreneurs to transform themselves to be global leading enterprises (Ministry of Industry, 2016).

The medical and wellness business surely benefits from these public policies. Nevertheless, with all the strategies laid out, they have not incorporated pandemic into the 20-year strategic plan. With COVID-19 breaking out in the country, Thailand has now faced huge challenges that it needs to overthrow. The government as well as relevant actors must redesign the strategies to cope with reality. Therefore, this research suggests that the study of the medical and wellness business support from the government and relevant actors, both during and after the COVID-19 pandemic phase, should be further scrutinized to make the story of Thailand 4.0, value-based economy, model entirely complete.

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Factors influencing the intentions of financial planners to adopt Robo-advisors

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Keywords

Automated financial advice; digital wealth management; financial planning; financial technology; Robo-advice; technology acceptance model.

Abstract

Orientation: Financial Technology (FinTech) is causing a transformation in the traditional methods of financial services. In the financial planning industry, Robo-advisors are a novel FinTech solution which can enhance the current services of financial planners.

Research purpose: This study provides an overview of the functions and processes of Robo-advisors and investigates the intentions of financial planners to adopt Robo-advisors into their practices.

Motivation for the study: Research on the intentions of financial planners to adopt Robo-advisors can yield results which may assist in easing the incorporation of Robo-advisors into financial planning practices

Research approach/design and method: Interpretivist paradigm and phenomenological qualitative approach adopted. Criterion and snowball sampling employed to conduct semi-structured interviews with 13 financial planners. Data derived from interviews was analysed by means of a directed content analysis.

Main findings: The intentions of financial planners were influenced by the following factors: their intentions to use, training and education, experience, system quality and compatibility with tasks

Practical/managerial implications and conclusions: institutions and professional bodies within the financial planning sector can use the Robo-advisory Adoption Model (RAAM) to facilitate the process of adoption into practices. Furthermore, the RAAM developed in this study can be used to measure the intentions of financial planners to adopt Robo-advisors and other technologies. This model can be tested and applied in future research projects.

1 Introduction

Financial technology (FinTech) is anticipated to be one of the most transformative trends of the century, bringing with it a mass of opportunities and challenges (Arslanian and Fischer, 2019). According to the Financial Planning Services Board (2016), FinTech has the potential to impact the activities financial institutions globally and can make traditional financial systems more easily accessible, efficient and user friendly. The move towards delivering products and services online can improve the accessibility to financial services by a large portion of the population. These individuals may have previously had limited access to professional financial services due to financial or geographical restraints (Wentzel, Diatha and Yadavalli, 2013). The FinTech component in focus in this article is Robo-advisors. Robo-advisors are online-based financial advisory platforms making use of hi-tech algorithms, based on which financial recommendations are made (Park, Ryu and Shin, 2016). Services offered by Robo-advisors are referred to as Robo-advice. Robo-advice currently ranges from basic portfolio construction and analysis to the complex analysis of financial products. These capabilities are expected to grow with time. (Kneller, 2017).

The use of Robo-advisors can be beneficial for both individual investors who opt to use them independently and for financial planners in their professional capacity (Fisch and Turner, 2017). According to Iannarone (2018) financial planners who elect to incorporate Robo-advisors into their offerings can create well-diversified portfolios and consider clients' time horizons more effectively. Individual investors who choose to use Robo-advisors will not be constrained by the many limitations posed by the office environment (Iannarone, 2018). The Financial Planning Institute of Southern Africa

(2017) states that financial planners can create a better experience for themselves and clients by incorporating Robo-advisors into their service offerings.

There is a gap in knowledge regarding financial planners' intentions to incorporate Robo-advisors into their service offerings. Understanding the factors that hinder the intentions of financial planners to adopt Robo-advisors into their service offerings can contribute towards identifying ways to encourage adoption of Robo-advisors into the financial planning process. This article reports on an investigation of the elements which effect and influence the intentions of financial planners to adopt Robo-advisors into their service offerings. The articles' main objectives are to identify potential factors that inhibit the intention to adopt Robo-advisors and to identify the factors which will facilitate adoption of Robo-advisors into the financial planning process, within South Africa. The Robo-advisor adoption model (RAAM) developed during this research could guide for more effective adoption in financial planning.

2 Literature review

Prior to investigating the intentions of financial planners to adopt Robo-advisors into their service offerings, it is important to have an understanding of the functions, processes and the benefits of financial planners using Robo-advisors. In the literature discussion that follows, the main functions of Robo-advisors are outlined and discussed in order to create an understanding of what Robo-advisors actually do. This is followed by a discussion of the three-step process Robo-advisors adopt to execute their functions. A brief discussion then follows on how these functions and processes can prove to be beneficial to financial planners should they choose to adopt them. In closing, the Technology Acceptance Model (TAM) is discussed as this model is often used to measure individuals' intentions to use technology.

2.1 Main functions of Robo-advisors

The main functions of Robo-advisors include but are not limited to the creation of personalised investment portfolios, rebalancing of portfolios, and the provision of tax-loss harvesting (Kaya, 2017). These functions are discussed.

When creating portfolios, Robo-advisors commonly elect to invest in Exchange Traded Funds (ETFs) (Kaya, 2017). ETFs are investment vehicles which aim to track the performance of a specific index (Lettau and Madhavan, 2018). Santhosh (2018) states that ETFs aim to replicate the performance of a specific benchmark index. The reason why ETFs are a preferred investment strategy is because they are perceived to have lower expense ratios and offer a higher degree of liquidity and diversity. These characteristics are directly linked to the passive investment strategy adopted by ETFs (Santhosh, 2018). Kaya (2017) emphasises that ETFs are possibly the most suitable financial security choice for automated trading strategies. He supports this statement by bringing attention to the fact that approximately 55 per cent of Robo-advisors in Europe adopt ETFs as their main investment instrument.

Portfolio rebalancing is a strategy which realigns the asset distribution within a portfolio by purchasing and selling assets (Louw, 2018). When attempting to rebalance a client's portfolio, Robo-advisors aim to minimise the risks associated with the current portfolios' asset allocation. Portfolio rebalancing is a necessary task because, over time, the performance of asset classes changes and can cause a shift in the balancing of a portfolio. Furthermore, any changes in the clients' particulars may also herald various changes to be made within the portfolio structure (Kaya, 2017).

Tax-loss harvesting is a strategy which aims at reducing the amount of capital gains tax payable by an individual by offsetting their gains against their losses. It is worth noting that the aim of tax-loss harvesting is not to turn a loss into a gain but rather to minimise an individual's tax liability (Cahn, 2017). According to Hammer (2013), this strategy is achieved by selling securities which have produced an unrealised loss. This security must then be replaced with another which is similar in nature to ensure that balance within the portfolio structure is retained. This strategy offers clients the benefit of reducing their tax liabilities and provides clients with an opportunity to rebalance and diversify their portfolios (Hammer, 2013).

2.2 The Robo-advisory process

As depicted in Figure 1, the Robo-advisory procedure comprises of a three-stage process: client identification and screening, implementation of investment strategies and the ongoing monitoring and evaluation of investment strategies. Each stage of the Robo-advisory process is discussed in the sections that follow.

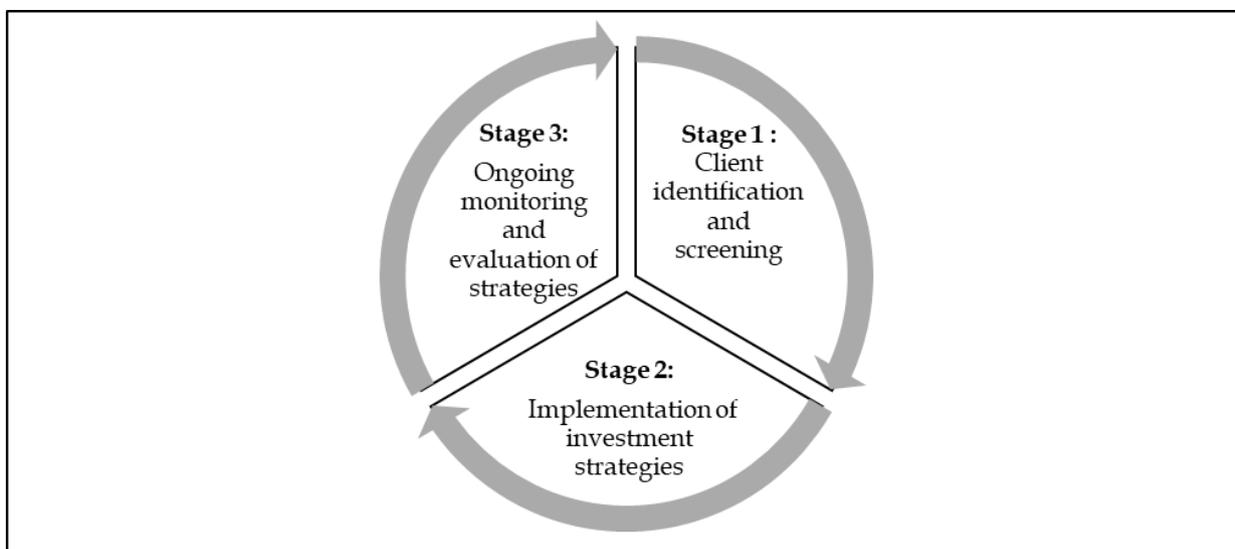


Figure 1: The Robo-advisory process
Source: Adapted from Kaya (2017)

2.2.1 Client identification and screening

Although all Robo-advisors are not the same, they all collect information in a similar manner (Charles Schwab, 2019). Online questionnaires are tools for collecting vital client information for providing Robo-advisors with the information required to make recommendations. These questionnaires are usually set out in a multiple-choice format and are specially designed to assist Robo-advisors in collecting information required in order to generate recommendations (Accenture, 2015). The information collected includes clients' financial needs, goals, risk appetite as well as their investment timeline (Kaya, 2017). From the clients' perspectives this stage forms part of the process which they undertake to set up an account with the Robo-advisor. After users have uploaded the required documentation and confirmed their banking details, they can begin investing almost instantaneously. If necessary, users can adjust the details of their investments (deposits and contributions), or easily elect to cash out certain investments if the occasion should arise (Kaya, 2017).

2.2.2 Implementation of investment strategies

Based on the information collected, Robo-advisors will select specific assets which best align with the client's investment preferences. In this step, the Robo-advisor will develop a 'plan' by deciding on asset allocation and selecting ideal securities, ultimately providing the user with a proposed investment solution (Accenture, 2015). Charles Schwab (2019) states that the client will be expected to fund the account and indicate their satisfaction with the proposals made. Thereafter, relevant accounts will be opened, and assets transferred if necessary (Accenture, 2015).

2.2.3 Ongoing monitoring and evaluation of strategies

Through adoption of various statistical tools, Robo-advisors will monitor the performance of clients' investments on an ongoing basis. When circumstances such as fluctuation in the economy's performance cause turbulence in the asset allocation of portfolios, or when a client decides to change or update certain preferences or personal details, Robo-advisors will automatically adjust or rebalance the portfolio accordingly (Kaya, 2017). As indicated in Figure 1, this stage will require the Robo-advisor to return to stage one of the Robo-advisory process which will lead to the re-evaluation of client information, in order to identify changes which may occur in their financial situations.

2.3 The benefits of financial planners adopting Robo-advisors

Robo-advisors are both consumer-facing and institutional-facing, meaning that Robo-advisors' service two primary users: financial planners and independent investors (Fisch and Turner 2017). Financial planners may adopt Robo-advisors to assist them in efficiently serving their clients. Baker and Dellaert (2018) propose that in this case, Robo-advisors will be expected to work behind the scenes. This will leave humans largely in control of client relationships and the designing, modelling, programming and marketing of wealth management can be done by tools such as the Robo-advisor (Baker and Dellaert, 2018). By doing this, financial planners can effectively eliminate the key downfall of Robo-advisors which is their inability to develop relationships with clients (Vien, 2015).

Robo-advisors will lessen the workload of human financial planners by providing them with additional time to focus on adding value to their services. Therefore, financial planners and institutions will be able to place their focus on building sustainable client relationships, team building in the workplace, as well as on making an extra effort to establish bonds based on trust (Iannarone, 2018). Ultimately, by financial planners adopting technological tools like Robo-advisors they will be enabled to spend more of their time focus on what they are good at (and where Robo-advisors fall short) – establishing and maintaining relationships with their clients. Whereas the Robo-advisor can assist in lowering costs in areas of data collection and organising, analysing portfolios and delivering advice (Financial Planning Services Board, 2016).

2.4 The Technology Acceptance Model (TAM)

According to Stewart and Jürjens (2017), the intentions of individuals to adopt and accept FinTech systems like the Robo-advisor can be effectively evaluated by the Technology Acceptance Model (TAM). TAM is a theoretical model that is broadly used to assist in understanding adoption of new technology across various industries (Gangwar, Date and Ramaswamy, 2015). Davis (1985) states that the aim of TAM is to aid the understanding of how individuals choose to accept adoption of technology into their everyday lives. Additionally, TAM can also be used to physically test the acceptance of technology by means of various demonstrations and interactions with prototypes. Furthermore, Durodolu (2016) emphasises that in order to understand the acceptance of technology by humans, the Perceived Usefulness and Perceived Ease of Use of the technology must be understood. The components of the TAM model as outlined by Durodolu (2016) are depicted in Figure 2.

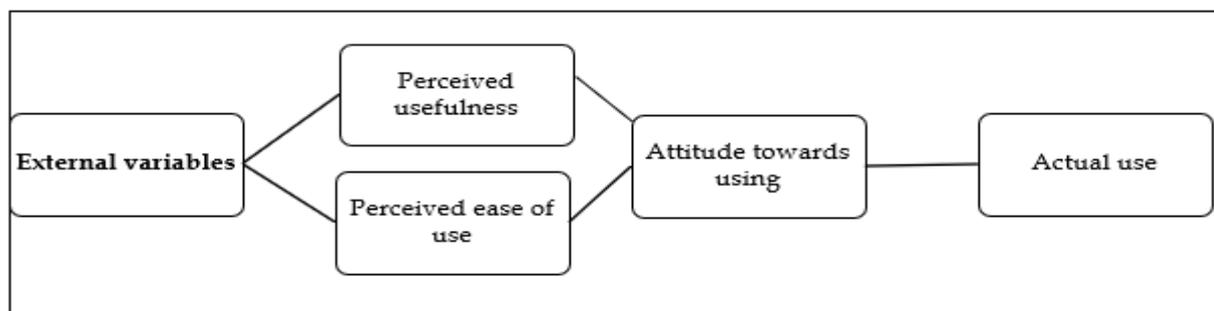


Figure 2: The Technology Acceptance Model (TAM)
Source: Durodolu (2016)

Perceived Usefulness and Perceived Ease of Use are the two core components of the TAM (Ducey, 2013). Perceived Usefulness refers to the extent to which an item of technology has the ability to improve a task or the performance of something. Perceived Ease of Use refers to the extent to which the technology adopted is easy to use and causes the user minimal confusion or difficulty (Davis, 1989). As Robo-advisors are not widely used in South Africa, the Perceived Ease of Use cannot be considered for the nature of this study.

As indicated in the figure above, the Perceived Usefulness and Perceived Ease of Use of a technology is influenced by certain external variables. These external variables which affect Perceived Usefulness are identified by Durodolu (2016) as intention to use, training, experience and perceived system quality. Legris, Ingham and Colletette (2003) contribute the additional external variable of compatibility of the technology with the nature of the task. As per Figure 2, these external variables contribute to the users' attitudes towards the technology which impacts their final intention to use the technology (Durodolu, 2016).

The intention to use a variable refers to an individual's initial willingness to use the said technology to perform the tasks it was created to fulfil (Durodolu, 2016). According to Igbaria, Zinatelli, Cragg and Cavaye (1997), the training and education variable refers to the amount of training and education provided to the users of the technology. This training and education can be provided by sources that are internal or external to the organisation. Furthermore, Venkatesh and Morris (2000) state that the experience variable refers the user's own experience with the technology. This experience can help them decide whether the technology will be beneficial for them to use, and by gaining first-hand experience, their perceptions are less likely to be influenced by their peers. The system quality variable refers to the technology's capabilities to provide sufficient solutions (Barranis, 2011). Lastly, the technology compatibility variable refers to the degree that the technology's capabilities meet the requirements of the task it is expected to perform (Dishaw and Strong, 1999).

3 Research design

3.1 Research approach

The interpretivist paradigm requires that researchers understand a research topic from the perspective of individuals involved in the area being researched. Emphasis is placed on understanding peoples' motives, views or actions instead of understanding objects (Saunders, Lewis and Thornhill, 2016). In the case of the study reported in this article, an understanding was required of the perspectives and intentions of financial planners to adopt Robo-advisors into their practices. Furthermore, the qualitative phenomenological approach was identified to capture the perceptions of financial planners and to discover various themes which can assist in developing reasons for their intentions to adopt Robo-advisors (Cooper and Schindler, 2013).

3.2 Research strategy

The data was derived by means of semi structured, in-depth interviews with 13 financial planners who are actively involved in the financial planning industry. Criterion-based and snowball sampling was used to identify qualifying participants. These participants all work in different practices and the amount of experience they possess differed, thus providing variety of candidates in participation.

Ethical clearance was obtained from the respective University (H20-BES-BMA-001). Potential participants were identified and contacted telephonically or via email to set up an interview at a suitable location and time. Participants signed an informed consent form and permission was granted for audio to be recorded for ease of the data collection and analysis process.

4 Research method

4.1 Research setting and establishing researcher roles

This study was undertaken within Port Elizabeth in the Eastern Cape province in South Africa. In line with the importance of being aware of the role of the researcher (Sanjari, Bahramnezhad, Fomani, Shoghi, and Ceraghi 2014), the researcher in this study was a stranger to all participants prior to data collection. This ensured that participants answers were impartial in their responses. The researcher however possesses a good understanding of financial planning and the financial planning environment due to tertiary education in this discipline at undergraduate and postgraduate level. The co-author was actively involved in the planning and execution of the financial planning programmes at the university and is affiliated with various professional bodies relative in the industry.

4.2 Research participants and sampling methods

The sampling methods adopted in this research were criterion based and snowball sampling.

For criterion-based sampling, participants of the study were required to meet the following criteria:

Participant must actively offer investment advice.

Participant must have offered advice for a minimum of three years.

Participant must have a formal education (degree/diploma), enabling him/her to provide financial advice.

The above criteria were applied as qualifying questions and set forth via email, prior to the participant engaging in the interview process. Snowball sampling assisted the researcher in reaching a larger, data-rich sample. This was achieved by the researcher interacting with financial planners and requesting referrals to other possible participants who meet the criteria to participate in the study. It is difficult to provide a numeric value to the sample size for a qualitative study (Struwig and Stead, 2013). Therefore, qualitative interviews should be conducted until the point of saturation (Eriksson and Kolvalainen, 2016). The concept of data saturation thus requires that interviews be conducted until the point where minimal new information surfaces (Marshall, Cardon, Poddar and Fontenot, 2013). For this study, data saturation was met at 13 interviews. This number is in accordance with the guidelines outlined by Guest, Bunce and Johnson (2006) which state that data saturation can be met at approximately 12 interviews.

4.3 Data collection methods

Data was collected by means of face-to-face, semi structured interviews. In accordance with the guiding principles of Eriksson and Kovalainen (2008), questions asked in semi-structured interviews were not all the same but relate to the same themes and topics. In the case of this study the broad topics were intentions to use Robo-advisors, training and education provided on Robo-advisors, experience with Robo-advisors, the perceived system quality of Robo-advisors and compatibility of Robo-advisors with tasks. These interviews took place at the office of the participating financial planners, thus facilitating a comfortable yet professional environment. This method was deemed most appropriate for the nature of this research as it permitted the relevant themes and topics to be discussed in a personal setting, which allowed for open and honest discussions to take place between the researcher and participants.

4.4 Strategies employed to ensure data quality and integrity

Trustworthiness was ensured by maintaining logs on daily activities, which included information of the interviews conducted, data analysis, literature findings and progress on thesis writing, as well as personal notes. Any possible biases which the researcher encountered were put forward in discussion with the co-author and then addressed.

4.5 Data recording

After audio recording, all the interviews' recordings were transcribed by a professional transcriber. Jensen and Laurie (2016) concur with this approach by stating that transcribing interview data can be a time-consuming process. As per Hsieh and Shannon (2005) the transcriptions were then further analysed by the researcher according to codes developed for a directed content analysis.

4.6 Data analysis

Content analysis was identified as the most suitable data analysis method in line with Quinlan, Babin, Carr, Griffin and Zikmund (2015) who note the use of content analysis to seek underlying meanings and is suitable when analysing large amounts of open-ended data, are derived from interviews (Collis and Hussey, 2003). The deductive and inductive coding strategies were adopted in the coding process of interview data. Initially the directed content analysis approach was adopted, and coding categories were based on theory and developed prior to the analysis of data derived from literature (Ravitch and Carl, 2016). Codes were primarily developed deductively but where new findings emerged which were not identified in literature, additional inductive codes were developed (Catanzaro, 1988).

5 Results and discussion

The general viewpoints of financial planners around the topic of Robo-advisors are considered before reporting on the intentions of financial planners to adopt Robo-advisors into their practices. These viewpoints are discussed because they inductively emerged as a recurring topic of discussion in interviews. The two major viewpoints related to Robo-advisors causing minimal disruption to the industry and Robo-advisors disrupting the traditional methods of financial planning

The opinion that Robo-advisors will not cause disruption within the industry was reflected by Participant J, *'And there is a place for it. You know, but I do not think it will cause disruption. Our industry is constantly changing, and we need to change as well. So, I don't think it will cause disruption'*.

Furthermore, Robo-advisors do have a space in the market, but they will not be able to do what financial planners do, as stated by Participant K, *'I don't say there is not a place for it, but I don't think Robo-advice will take over what a financial advisor is currently doing'*. Participant M highlights that there are other forces in the industry which are perceived to be more disruptive than Robo-advisors *'Disruptions for our methods of financial planning would definitely be new laws and regulations – that would definitely play a massive role'*

There clearly are conflicting perceptions on the view of Robo-advisors' potential disruptions on the industry, as expressed by Participant A, *'most people are already going this route; it has caused a disruption in the industry already'*. Participants feel that Robo-advisors would be able to take away some of their clients, as Robo-advisors will enable clients to do their own financial planning, thus eliminating the need for a professional financial planner. Participant H mentioned: *'because of the fact that they can do it themselves, they don't need us anymore'*. In addition to taking away clients, some participants are of the opinion that Robo-advisors can replace the financial planning profession altogether at some point in the future, as expressed by Participant G, *'I actually see us being done away with completely to a large extent especially to the newer generation as everything is available online nowadays. It is also possible that a transformation will occur in the traditional methods in which the industry has been conducted; it could become possible that humans will be placed in charge of overseeing the Robo-advisory systems, as explained by Participant H, 'I said earlier I think that's the way the industry is going to go. Sooner or later, you are going to get virtual financial planners, AI's that run the client meetings, and you will have a human component making sure the AI does what it is supposed to do'*.

TAM was employed to understand financial planners' position on incorporating Robo-advisors into their offerings. As Robo-advice is in its infancy stage in South Africa, TAM was not able to be fully adopted due to the inability to address the perceived ease of use of technology. In support of this, all participants stated that they have never used it, thus making it impossible to evaluate adoption from the ease-of-use perspective. The remaining components of the TAM were deemed appropriate to assess the intentions of financial planners to adopt Robo-advisors into their practices.

The perceived usefulness variable was therefore used to identify whether financial planners would intend to integrate Robo-advisors into their offerings. Figure 2 visually depicts the Robo-advisor adoption model developed in this study based on the TAM and the findings from this study. This Robo-advisor adoption model outlines the underlying elements influencing financial planners' intentions to adopt Robo-advisors and is presented in this section.

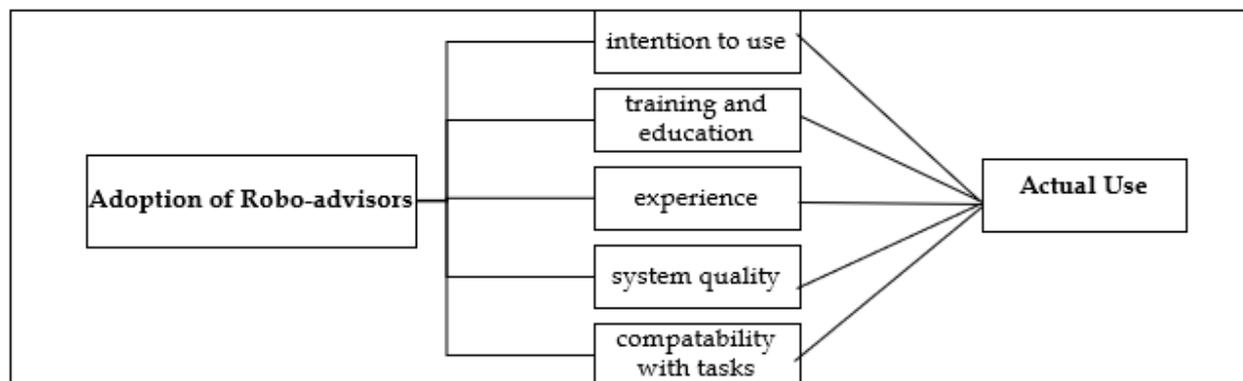


Figure 2: Robo-advisor Adoption Model (RAAM)

5.1 Intention to Use

Financial planners who participated in this study have acknowledged that there is a space for Robo-advisors in the industry. Participants have further indicated that they will consider incorporating

technology into their service offerings eventually, as expressed by Participant H, *'So it is really interesting thought, but when it comes to a financial advice point of view there is some kind of programme, we are going to make use of to be part of our service offering, but at this stage, it is not yet there'*.

However, although participants agree that Robo-advisors can be incorporated into their service offerings, they are currently uncertain regarding the role of Robo-advisors in the financial planning process. They believe that their clients prefer the human interaction component of financial planning, as expressed by Participant F, *'We try and see if we can incorporate it in the business, but we haven't found the solution because in our business we are working with people that prefer to work personally with an advisor and don't want to go through a computer-based advice system'*.

The intention to use variable refers to the willingness of the user to adopt the technology to perform the tasks it was created for (Durodolu, 2016). Financial planners expressed that they are willing to try and incorporate Robo-advisors into their service offerings. They noted that Robo-advisors can be used to improve the current service offerings of financial planners, as highlighted by Participant A. As financial planning can be a timeous process, adopting a Robo-advisor into their practices may assist financial planners by saving them time and allowing them to focus on other aspects in which Robo-advisors fall short, as explained by Participant L, *'You need to evolve in technology to smooth your processes, to streamline your processes. So, what do I mean by that - Is that the traditional methods of giving advice, referring to holistic planning, takes a lot of time? So, we are constantly seeking smarter ways of doing things. Furthermore, Participant B elaborates on how Robo-advisors can assist in saving financial planners time by stating, 'A financial planner should maybe have a Robo-advisor as a backup; so if somebody wants to do something and is unable to see the financial planner or wants to do it rather than pay for an hour to see me, or whatever fee goes with the service - we could always then refer them to the Robo-advisor and say ... input your information into the system and ... then we could help you'*.

Some financial planners have expressed their unwillingness to adopt Robo-advisors into their operations. This unwillingness is based on the belief about the importance of relationships in the industry: *'We played around with technology, but we don't use it because I am a relationships person'* (Participant J). Furthermore, the perceived limitation of Robo-advisors' capabilities discourage financial planners to adopt them, as suggested by Participant D, *'I do not think I would personally incorporate it into my service offering, because with my service offering, I would be seeing clients that are wanting holistic financial planning'*. These beliefs could possibly be linked to a lack of training or education present on the topic of Robo-advisors, as the hybrid Robo-advisory approach aims at combining the technological nature of Robo-advisors with the input and advice of a certified financial professional.

5.2 Training and Education

This variable refers to the amount of training or education that has been provided to the users of the technology by the sources internal or external to the organisation (Igbaria et al., 1997). All participants expressed awareness on the topic of Robo-advice, but the sources of education and training vary.

Participants indicated that they learnt about Robo-advisors through their own personal research efforts: *'I have done some research on it, so when this big buzz word came out, Robo-advice, if we can find a solution in our firm, if there is a space in our firm for it, so I actually did webinars on it, but I don't know of anyone who has done it'* (Participant L). Other participants state that they were made aware of the concept through industry presentations that they attended (Participant C), Other sources of training include presentations by head office, as mentioned by Participant A, and Roadshow presentations as stated by Participant H and Participant I.

Table 1 provides additional quotes which highlight the various sources of training and education

| Source of training and education | Participant | Quotation extracted verbatim from interview transcripts |
|---|-------------|---|
| Presentations made by employer company | C: | 'I heard about it at one of the company presentations, they are playing with the idea of launching something like that [Robo-advice]' |
| | D: | 'there was a brief explanation of how it [Robo-advice] and that they were eventually going to be implementing it, and what market they were obviously looking to penetrate with Robo-advice. So, there was a very brief training on it, to prepare us for what obviously our clients are going to be - potentially utilising' |
| Financial roadshow presentations | H: | 'I have heard mostly from the [company name] Fund because I went there for a roadshow and then all the articles saying Robo-advice is going to take away jobs from the existing financial advisors. So that's why I have heard of it' |
| | I: | 'Roadshow presentations; we are very much aware of the technology and the internet of things and how things are developing at a rate of knots. There was a presentation done by somebody at [company name], about the Robo-advisor' |
| Presentations by the Financial Planning Institute (FPI) | F: | I heard about it at Industry presentations from the FPI' |
| Own research | E: | 'I have seen it [Robo-advisors] on the internet you know, certain aspects of it only' |
| | J: | 'I learnt by self-study, you know, I know what it is. It is a pre-program with limited choices' |
| | L: | 'I listened to seminars on it as well, and then also I have enrolled with [company name], they were hosting a discussion on Robo-advice and how that can help in your industry or in your firm, to provide a solution on that regard' |
| | M: | 'I learnt just from articles on the internet' |

Table 1: Sources of training and education

5.3 Experience

This variable refers to users' personal experiences with the technology, which can assist them in deciding whether it will be beneficial for them to adopt the technology (Venkatesh and Morris, 2000). Due to Robo-advisors being in their infancy stage within South Africa, most participants expressed that they have never had physical experience with Robo-advisors. They were however aware that in other countries the use of Robo-advisors is more widespread than in South Africa, as highlighted by Participant A. Only one participant indicated that they do have some experience with Robo-advisors, in that they have a retirement calculator on their website which they view as a sort of Robo-advice: 'I did have a form of Robo-advice on my website, but I found that my clients didn't make use of it. And my website would then notify me when that programme was being used'. (Participant B), This tool however, does not fit the definition of Robo-advice, whereby this statement further highlights the lack of training and education available to professional on the topic of Robo-advice. Although none of the other participants indicated that they use Robo-advisors, a few of them expressed that the possibility of their company eventually creating their own Robo-advisory platform is likely, as expressed by Participant H.

5.4 System Quality

The system quality variable refers to the ability of the technology to provide efficient solutions based on the tasks it is meant to perform (Barranis, 2011). Robo-advisors are perceived to have a good system quality from the perspective of accuracy and efficiency. Robo-advisors offer fast results to users with accurate information and are unlikely to be subjected to any biases as humans would, as highlighted by Participant H, *'So I think the financial planning process is much more efficient and faster and could also be more accurate, unbiased, giving the right solution to the shortfall and that's about it'*. Furthermore, Participant M highlights that Robo-advisors exceed human capabilities in the area of mathematics.

The system quality of Robo-advisors is brought down by its lack of ability to fulfil the relationship role offered by human financial planners as expressed by Participant B, *'You can't develop a relationship, it is emotionless, it lacks empathy'*. In addition to the lack of relationship, human financial planners can provide clients with explanations and actual advice regarding investment choices, as well as a larger variety of options, as stated by Participant K, *'I think the fact you can sit down and an advisor can explain and show you options, and also you can get a Robo- advisor that perhaps is for one company, and then it is not to say that that specific company is the best solution for the client; whereas if it is independent advisor and you can offer different solutions with different companies to the client'*.

5.5 Compatibility with Tasks

The compatibility variable refers to the degree that the new technology can perform to fulfil the requirements of the task it is meant to fulfil (Dishaw and Strong, 1999). Participants highlighted that the lack of human interaction is the main component of Robo-advisors which makes them incompatible with the nature of financial advice:

'We try and see if we can incorporate it in the business, but we haven't found the solution because in our business we are working with people that prefer to work personally with an advisor and don't want to go through a computer-based advice system' (Participant F)

Financial planning requires that financial planners thoroughly investigate and understand clients and their circumstances. Robo-advisors may fall short in this area as they cannot mimic human behaviour, as expressed by Participant M, *'A Robo-advisor doesn't have the insight of human beings. It only does the numbers, so it does not know... it can calculate the child is turning 18 so you will need a capital amount, you know, at 18. But it might not know that the child does not want to go and study further. So, insight is difficult to get from a Robo-advisor'*. Robo-advisors may be beneficial to financial planners if they adopt them as an assistive tool but will not be able to assist with consulting clients, as stated by Participant M, *'I think a Robo-advisor can help you in paraplanning, but not as in seeing clients and advising client directly'*.

The above discussion of this study's findings highlight that some financial planners intend to use Robo-advisors as they perceive them to be beneficial to them. Others have expressed that they see little to no benefit that could arise from incorporating it into their offerings. With regard to experience, financial planners have had little to no experience with Robo-advisors. This is due to Robo-advisors not yet being widely used in South Africa. Those who think they have had experience with Robo-advice have displayed a misconception regarding what Robo-advisors are, which could be due to the limited training and education provided in this area. The system quality of Robo-advisors appears to be highly dependent on the benefits it is perceived to offer to its users. Since the lack of relationships has been consistently highlighted as a downfall of Robo-advisors, it has a negative impact on the perceived system quality of Robo-advisors. The compatibility of Robo-advisors with tasks they are expected to perform seem to be dependent on the human element. Unfortunately, due to the lack of empathy and relationships, Robo-advisors cannot compete with human financial planners with regard to compatibility with tasks.

6 Discussion and conclusion

6.1 Outline of results

The findings of this study highlight that the intentions of financial planners to adopt Robo-advisors are dependent on their intentions to use, training and education, experience, system quality and compatibility with tasks. Training and education on Robo-advisors has emerged as an area of concern as the majority of education received on this topic was self-sought from financial planners' own research efforts. Based on literature and findings, elements of the TAM were modified into a Robo-advisor Adoption Model (RAAM) which encompasses factors that directly influence financial planners' intentions

to adopt Robo-advisors specifically. Furthermore, the findings highlight that it is possible that Robo-advisors will cause disruption to traditional methods of financial planning.

6.2 Practical implications

Adopting Robo-advisors will transform the traditional methods of financial planning and possibly impact the current financial planning process followed. However, if used correctly, these tools can facilitate an easier process for both financial planners and clients. By addressing the elements of the Robo-advisory model, institutions and professional bodies within the financial planning sector can facilitate the process of adoption into practices.

6.3 Limitations and recommendations

Due to the time and financial restraints imposed on this study, a limited sample was used for data analysis. The insights and viewpoints attained in this study were therefore limited to those financial planners who reside in one region only. An improved understanding and overview of a broader range financial planners would be achievable from the input of financial planners from other provinces.

A more in-depth analysis into how each of the components of the Robo-advisory model influence the intentions of financial planners could be beneficial in developing an understanding into the underlying issues which may hinder adoption. Furthermore, a study of a similar nature, perhaps with a quantitative approach can be executed on a larger scale, with participants from various regions. These results will help gain a broader perspective on the intentions of adoption and highlight factors within the Robo-advisory adoption model that are more influential than others.

Research into Robo-advice is novel as limited research has been conducted in this area, even more so in the local South African context. Increased insights are required as the South African financial landscape differs from other countries where the use of Robo-advisors may be more widespread. However, lessons can be derived from the experiences and performance of practises abroad who have adopted Robo-advice. Analysis of performance indicators and experiences of foreign practises could inform the development of more clear guidelines for use by the financial planning industry. These guidelines could facilitate incorporation of Robo-advisors into service offerings whilst causing minimal disruption to the traditional methods to which clients and financial planners are accustomed. Furthermore, the training and education initiatives of countries where Robo-advisors are used widely need to be investigated. Formal training and education locally are limited, as many of the participants indicated that they have learnt about Robo-advice from their own research initiatives

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Developing a framework for managing household debt The case of South Africa

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Keywords

South Africa, household, debt, income, consumption

Abstract

The proportion of household debt to disposable income is very high in South Africa, signifying over-indebtedness which reduces the welfare of households and ultimately reduces economic growth. This paper presents the determinants of the household debt in South Africa and comes up with a framework of recommendations on how to manage household debt. The objectives are achieved through systematic literature review, document analysis and secondary data analysis. Our findings suggest that households are over-indebted because they lack the necessary finance management skills, lack proper protection from the predatory practices by lenders and fail to obtain disclosure of vital information pertaining credit which affects their decision to borrow. Household indebtedness is also caused by the rising cost of living and low household disposable income, low household savings, high interest rates, misfortunes or adverse trigger events and living in urban areas. Education, age and being a recipient of a social grant all have positive and negative impacts on household indebtedness. Findings also suggest that female-headed households, renting households, large households, households with a mortgage and households where head is not working, is sick or disabled are more likely to be over-indebted. We develop a framework with recommendations for managing household debt in South Africa. We recommend upskilling to help households to effectively manage their finances and take responsibility. Moneylending institutions are encouraged to disclose vital information pertaining credit which affects decision to borrow by households and to avoid predatory lending. We also recommend a review of interest rates on debt and availability of consumption insurance on all loans to cover for cases when the household faces unforeseen circumstances affecting repayment.

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Introduction

Household debt is beneficial to families as it enables them to buy goods and services that they would not be able to pay for in one go, raising their standard of living. They therefore smoothen their consumption over time providing stability to the economy (Harari, 2018). However, when households fail to repay their loans with commercial banks and other money lending institutions, it poses a threat to the wellbeing of the whole economy as the funds are taken from savings and the banks would in turn fail to honour their obligations to depositors (Zimunya & Raboloko, 2015). In the financial sector household debt increases non-performing loans and weakens balance sheets of financial intermediaries and reduces availability of credit ultimately resulting in fall of household consumption (Albuquerque & Krustev, 2015). In South Africa, there has been continued increase in household debt coupled with a high debt to income ratio and growth in repayment default, posing a challenge to the credit sector and the stability of the economy. Rises in debt levels increase borrowers' likelihood to default and leads to irregular financial cycles essentially risking the financial system collapse similar to what happened in the 2007-2009 global financial crisis (Klein, 2015).

The objectives of the paper are therefore to understand the nature and determinants of household debt and to come up with a framework for managing the household debt in South Africa. This will ensure reduction of debt burden amongst households and reduce the negative impact of excessive debt on the

economy. Further, the government of South Africa provides social security grants to vulnerable households, yet a significant number of families still borrow large amounts of money, leading to high debt burden. This paper highlights impact of these grants on household debt. Our findings suggest that households are over-indebted because they lack the necessary financial management skills necessary to practice responsible spending and lack proper protection from the predatory practices by lenders at the same time. The increasing cost of living coupled with low household disposable income leads to low or no savings leading to increased household debt. Other causes of over-indebtedness are high interest rates on loans and misfortunes or adverse trigger events. Household debt is also affected by educational level, gender, age, health and employment status of the household head. Other determinants are whether the household is renting, has a mortgage, is a recipient of a social security grant or is large.

South Africa's household debt

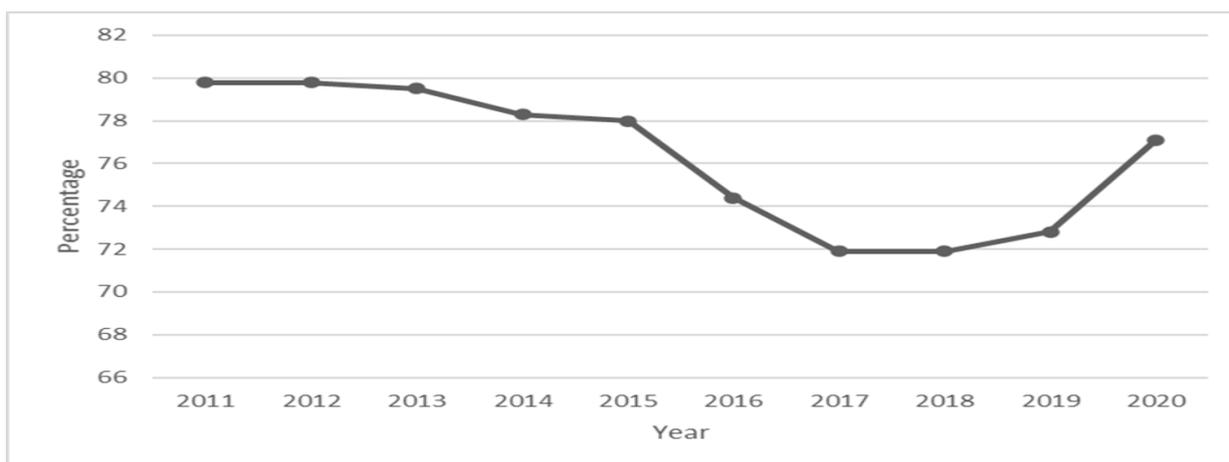
According to Allen, Babus & Carletti (2009), household debt has been associated with many financial crises and recessions. South Africa experienced a significant increase in its household debt to income ratio from the beginning of the financial crisis of 2008–2009 Meniago, Mukuddem-Petersen, Petersen & Mongale (2013). South Africa's middle class is facing a massive debt problem, many people are borrowing to pay for necessities such as food and transport while on average those in bad debt spend 63% of their after-tax income on repayments (Business Tech, 2018). The worst first-time credit defaults for personal loans in South Africa are mainly young or single co-habiting couples reliant on social grants in one or two roomed informal dwellings (Business Tech, 2018). Table 1 shows composition of debt in South Africa with Mortgages constituting the majority, 52% of debt and short-term credit being the least at 0.2%.

| | |
|---------------------------|------|
| Mortgages | 52% |
| Secured credit agreements | 22% |
| Credit facilities | 13% |
| Unsecured credit | 10% |
| Developmental credit | 2% |
| Short-term credit | 0.2% |

Table 1: Composition of debt in South Africa
Source: (National Credit Regulator (2016a))

Most of the household debt is from the banking sector at 83%, retailers at 2%, nonbank financiers at 5% and other credit providers at 10% (National Credit Regulator, 2016a). Unsecured loans grew in South Africa by more than 53% between 2010 and 2011 (National Credit Regulator (NCR) (2012). Unsecured debt has increased faster than household disposable income, and this has raised concerns among policy makers. This has caused concern for policymakers as the unsecured loans continue to increase faster than disposable income per household (Mutero, 2014). South Africa's household sector's debt level reached 86.4% of personal disposable income in 2008 following the global financial crisis (Trading Economics, 2020). However, the ratio of household debt to disposable income decreased slowly to 74.7% in the first quarter of 2012 (Meniago et al., 2013). It however fell to 79.8% in 2011 and to 78,5% in 2015 reaching 71.9 in 2018. In 2020 the ratio had increased to 77.1% and is now on an upward trajectory as shown on Figure 1.

Figure 1: South Africa Household Debt to Income Ratio



Source: Trading Economics (2020)

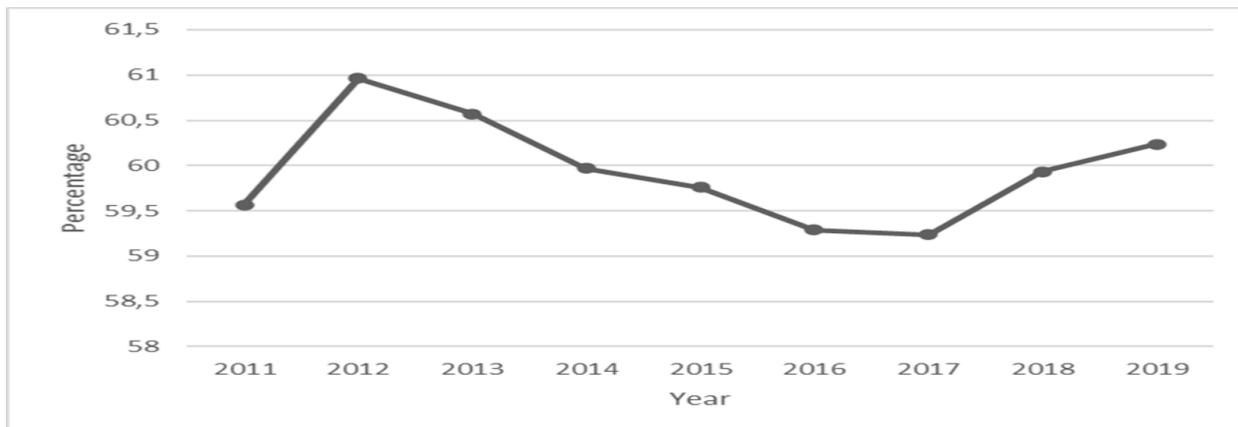
Both demand and supply side factors account for the high household debt in South Africa. These include overall decrease in interest rates, greater financial inclusion post-independence, lack of financial education and debt contracts that are vague and reckless lending by financial intermediaries (Hurwitz & Luiz, 2007; National Credit Regulator, 2012). The indebtedness of households in South Africa has been worsened by natural disasters such as drought and floods and pandemics such as the HIV - AIDS and recently the coronavirus pandemic. These have caused reduced capacity to repay loans as people's capacity to generate income has been drastically reduced. Further, South Africa is amongst the countries with the highest income inequalities in the world and income inequality exacerbates the household debt problem (Barba & Pivetti, 2009). There are macroeconomic variables such as consumption, housing prices, interest rates, inflation rates, economic growth, unemployment rates and money supply that determine the growth of household debt (Petersen, & Mongale, 2013). Managing household debt given these aspects is therefore necessary for poverty reduction and economic growth.

South Africa was found to have the lowest number of economically literate people, and second lowest number of financially literate people from a survey of 50 countries, highlighting a serious problem of lack of necessary skills and knowledge to manage finances (Jappelli, 2010). The National Credit Act (NCA) No. 34 (2005) was implemented in South Africa for the National Credit Regulator (NCR) to provide consumers with the required skills and knowledge to understand the ever-changing financial market, protect already over-indebted households and prevent reckless credit granting (NCA, 2005). Several programmes and initiatives were implemented to educate citizens on making wise financial choices, to avoid being indebted and to seek assistance if already in debt (NCR, 2012). Despite some criticism on NCR effectiveness in training, it may not be realistic for it to provide the necessary financial training to all South Africans as all industry stakeholders need to assist and households need to take the responsibility (Seane, Mah and Saah 2016).

Extremely high household debt can have potential negative effects on the strength of households as they are left with less disposable income (Harari, 2018). The higher the proportion of disposable income individuals pay towards their debt, the less they would be able to save, leaving the households vulnerable and poorer. It also leaves less funds for investment in the economy thus reduces capital formation domestically. With reduced domestic investment comes a sluggish economic growth and increase in poverty and unemployment. South Africa's GDP growth has been falling in the recent past due to reduced domestic savings amongst other reasons. The severe consequences of indebtedness are that it can affect a person's physical or mental health by causing depression, stress, suicidal thoughts and feeling helplessness and shameful (Fatoki, 2015). It may also become difficult for a person who is failing to pay to obtain a home for rental, employment, new credit, subscription for telephone or internet, pension policies or life insurance (Cuesta & Budria, 2015). High indebtedness results in high interest rates and high principal repayments which may reduce ability of households to cover living expenses. This leads to a

decrease in the standard of living and in the end reduces consumer spending, ultimately slowing down economic growth (Schmitt, 2000). This is more so given that over 60% of Gross Domestic Product (GDP) of South Africa comes from consumption expenditure as shown on Figure 2. The share of consumption on GDP is on the increase as shown on the figure (World Bank 2021).

Figure 2: Households' final consumption expenditure (% of GDP) in South Africa



Source: World Bank Development Indicators (2021)

Most of the studies on household debt are from other countries hence there is limited available empirical literature on the household debt in South Africa. This paper is of strategic importance as it provides an extensive overview of the nature and determinants of household debt in South Africa. The paper also presents a framework for managing the household debt in the country.

Methodology

The objectives of the paper are achieved through systematic literature review, with consideration of both international and South African literature to ensure further understanding of the household debt problem. We made use of systematic literature review method by identifying and synthesising existing literature on household debt in an unbiased way to provide evidence for policymaking. The method provides a clear and comprehensive overview of available evidence on household debt, helps to identify research gaps, and develop new research ideas and helps to identify questions for which the available evidence provides clear answers with no need for further research (Poklepović Peričić & Tanveer, 2019). Systematic literature review can enhance and promote evidence-informed policymaking, and this is particularly in areas with a strong and well-developed evidence base (Mallett, Hagen-Zanker, Slater & Duvendack, 2012). In addition to systematic literature review, document analysis and secondary data analysis are also utilised. The paper is based on the life-cycle hypothesis by Modigliani & Brumberg (1954) and Modigliani (1975), which suggests that households plan their consumption and savings behaviour over their life cycle, they opt for large amounts of debt to smoothen their consumption and for the possession of long-lasting commodities such as houses. The hypothesis also suggest that households have a negative saving rate during the early stage of their working life, but their savings increase while indebtedness decrease as they grow older.

Theoretical Literature

This section pertains a presentation of theoretical literature and concepts underlying the study. Household debt results when surplus cash balances that are deposited with financial intermediaries are mobilised and transformed into loanable funds for households. The funds get back into circulation as credit to the household sector (Dos Santos, 2009). Harari (2018) differentiates between two types of household debts, namely, secured and unsecured debt. The difference between the two debts lies in the fact that the first uses an asset as security and the latter does not. An example of secured debt could be a mortgage loan, and on the other hand, a student loans is a perfect example of unsecured loan (Harari, 2018). Access to credit helps poor households to escape poverty as they can spend even without current income (Cecchetti, Mohanty, & Zampolli, 2011). When households borrow to finance a more desirable

consumption pattern, it becomes as sensible to borrow as it is to save assuming that they have the capacity to service the debt (Bertola, Disney, & Grant, 2006). When debt is used prudently, it can be an economic determinant of economic growth. Households however become more vulnerable to economic shocks when they borrow beyond their capacity, and this can be worsened by factors such as poor risk management, ineffective legal and institutional infrastructure and weak macroeconomic environment (IMF, 2006).

Over the years, several principles or theories have been developed to explain household debt and these theories have established substantial economic foundations for future researchers. The theories help in understanding why and when households obtain debt. The permanent income hypothesis, which explains some features of consumption states that individuals divide their lifetime resources equally among each period of life (Friedman, 1957). The individual's consumption in each period is not determined by income that period but by income over his/her lifetime, called permanent income and the individuals smoothen consumption expenditure over their life-time income each period. Changes to current income have little effect on current consumption unless the individual believes that the changes have long-term consequences. Transitory income is difference between permanent income and current income and is roughly uncorrelated with permanent income. Individuals can borrow but any outstanding debts are repaid at the end of life. However, time pattern of income is very important to savings and the savings are high when current income is high and negative when current income is less than permanent income. Thus, individuals use saving and borrowing to smooth the consumption path.

The Debt Overhang theory by Sachs (1989) and Krugman (1988) explains that debt overhang is a situation in which either a business, a government, or a household has such high levels of existing debt that they cannot easily borrow more money, even in the case whereby the new borrowing would constitute a good investment that would more than pay for itself (Diamond & He, 2014). Debt maturity influences debt overhang through reducing incentive for highly levered borrowers to make real investments because some value accrues to debt (Diamond & He, 2014). Consumer debt delinquencies are a result of a genuine inability to pay as resources become constrained according to the 'cash flow' theory of defaults. The theory assumes that debtors will avoid arrears as long as their income flows are sufficient to cover their debt repayments without undue financial stress (Bhutta et al., 2010). Keynes (1936) developed the absolute income hypothesis where an economic agent will, by nature, consume more as income increases. The key assumption of this theory suggest that consumption is determined by the current levels of income. The marginal propensity to consume (MPC) plays an essential role in Keynesian economics as it measures the consumption-income relation.

The life-cycle hypothesis suggests that individuals plan their consumption and savings behaviour over their life cycle (Modigliani & Brumberg, 1954; Modigliani, 1975). Households mainly opt for large amounts of debt to smoothen their consumption and for the possession of long-lasting commodities such as houses. A household can maximize utility over its life-time subject to an intertemporal budget constraint. Households intend to smooth out their consumption as efficiently as possible over their entire lifetimes by hoarding when they earn and dissaving when they are retired (Modigliani & Brumberg, 1954). During the early stage of their working life, households have a negative saving rate, but their savings increase while indebtedness decrease as they grow older (Meniago et al., 2013). Households may then enter into debt in periods where their income is extremely low, to finance their consumption but they repay these loans in period when their income are relatively high (Meniago et al., 2013). When they retire, households again dissave and their consumption is principally financed by the income they earned during their working age. The key assumption of the life cycle hypothesis is that all households choose to maintain stable standard of living. This suggests that they would usually not accumulate a lot in one period to actively spend in the next period. The next section is an analysis of relevant empirical literature.

Empirical literature review on determinants of household debt.

This section pertains a discussion of previous studies that have been undertaken on determinants of household debt to fulfil paper objectives. An analysis of determinants of household debt is carried out both internationally and in South Africa to enable a deeper understanding of issues under study. The financial crisis triggered by the collapse of the United States of America (USA) mortgage market motivated increased empirical studies on household indebtedness (Klein, 2015). From international

literature there are conflicting findings on the impact of interest rates. Taylor (2009) concluded that the failure of the USA central bank to increase interest rates in the early 2000s was the main cause of the financial crisis and an over indebted household sector. On the contrary, Sinn & Valentinyi (2013) found out that the European monetary unification led to low interest rates in Southern Europe, which resulted in a debt boom. Meng, Hoang & Siriwardana (2013) studied the determining factors of household debt in Australia using the Cointegrated Vector Autoregression (CVAR) model and found interest rates were to be the most significant. They also concluded that housing prices, GDP and the population in the economy have a positive effect on household debt. On the other hand, unemployment rate, inflation, number of new dwellings and inflation were found to have a negative impact on household debt.

Other findings were presented by Turinetti & Zhuang (2011) who used a linear regression model to investigate the determinants of USA household borrowing. They concluded that unemployment rate, interest rates, disposable personal income per capita, share of retiring population, and educational attainment were negatively related to the household indebtedness in the USA, while housing prices, consumer confidence, and the share of working-age population are positively associated with the household debt. Barba & Pivetti (2009) analysed the causes and the long-run macroeconomic effects of the increase in household debt in the USA. The rising household debt was presented to be the outcome of growing income inequalities and fluctuations in income distribution in USA. Furthermore, low wages were related to high levels of aggregate demand through household debt. House prices were found to have a positive effect on household debt. Stockhammer & Wildauer (2018) estimated the determinants of household borrowing using a panel of 13 OECD countries from 1980 to 2011 and concluded that that real estate prices were the most important drivers of household debt.

Rising real estate prices play a major role in household debt accumulation as concluded by Égert, Backé and Zumer (2006) who estimated the determinants of credit to the private sector using simple fixed effects models as well as the mean group estimator. They found a significant and positive effect of house prices on private credit. Similarly, Goodhart & Hofmann (2008) estimated a panel VAR based on a sample of quarterly data from 1970- 2006 of 17 OECD countries and found out that house prices positively influence private credit and money. Ryoo (2016) used the Minsky model to also conclude that household debt is driven by property prices. Another determinant of debt is income level as concluded by Radipotsane (2007) who studied the determinants of household saving and borrowing in Botswana. Their findings revealed a negative short-run relationship between income and savings as households expect income adjustment to be permanent. The study revealed that households increase consumption more than the increase in their real income implying an increase in household debt and a decline in savings. Kumhof et al., (2012) used a two-class DSGE model to find out the determinants of debt and concluded that poor households are pushed into debt as they try to maintain their consumption levels. However, on the contrary, rapidly growing top incomes lead to rising household debt as consumers imitate the lifestyle and expenses of richer peers (Kapeller & Schütz, 2014).

Seane et al., (2016) concluded that lack of financial literacy contributes to risk of being indebted and that there is a positive correlation between financial literacy and savings. Thus, households need to have the necessary financial skills to avoid misusing credit and training on financial literacy can take place in schools to stress the importance of good financial management at an early age before debt happens (Seane et al., 2016). Nomatye & Phiri (2018) aimed at understanding the relationship between household debt and other macroeconomic variables for the South African economy. Using the Quantile Regression methodology, an insignificant relationship between household debt and both consumption and inflation were found. It was also established that GDP growth and house prices were only related at moderate level with household debt while interest rates and investment were found to be related with household borrowing across all quantile distributions. Further, expansion of the banking sector and diversification of its products were also found to contribute to the growth of household debt. In South Africa, Van Der Walt & Prinsloo (1995) found a positive relationship between household debt and real assets (especially housing), spending on durable goods and consumer prices.

Generally, South Africans have experienced a rising cost of living resulting in disproportionately large amounts household incomes being commitment to consumption expenditure rather than saving. With increased access to credit, families easily supplement consumption expenditure, increasing debt

burden and probability of failure to repay debt (Centre for Social Science Research, 2016). For South Africans, living in urban areas is found to be associated with high debt. The probability of over-indebtedness increases significantly with living in an urban area (Nyaruwata, 2009). This is supported Collins (2008) who reports that high indebtedness is found among the high-income groups in urban areas as they have access to financial services. Household disposable income, debt service ratio, household savings, interest rate, consumer price index jointly do Granger cause household debt in South Africa (Seane et al., 2016). However, to the contrary, Kempson et al., (2004), assert that over-indebtedness was much more likely in the poorest areas. Further, the Department for Business Enterprise and Regulatory Reform (2007) observed a persistent reduction in the prevalence of over-indebtedness as income rose. Social grants in South Africa were found to reduce the probability of being over indebted Nyaruwata (2009). However, to the contrary, households relying on social grants for more than 25 percent of their income had a high chance of being over-indebted (Russell et al., 2011). Thus, there is conflicting evidence on the relationship between debt and income level in South Africa.

Over-indebtedness can be triggered by some misfortunes or adverse trigger events often unanticipated such as medical emergencies, or sudden unemployment (Avery, Calem & Canner, 2004) According to Hurwitz & Luiz (2007), in such cases South African households are forced to abandon their financial obligations due to emergencies straining their cash flows while on the other side some have a reckless culture of non-payment due to financial illiteracy and lack of education financial literacy. However, Disney et al., (2008), contends that it is not the changes in the debtors' circumstances and massive shifts in earnings that cause delinquencies to occur but the surprise factor and the attempts to survive the immediate consequences. Consumers may be forced to suspending manageable obligations if they realise that continuing to honour them might lead to further deteriorations in their wellbeing (Centre for Social Science Research, 2016).

Households can overestimate the immediate benefits of credit, undervaluing the cost of the debt repayment or inflate expectations of future earnings resulting in them being over- indebted (Heidhues & Kőszegi, 2010; Hoffmann et al., 2012; Bachmann et al., 2015). If families feel that their financial situation is poorer than it should be, they are likely to exercise greater caution when choosing how to spend their money (Centre for Social Science Research, 2016). Lenders also fail to disclose vital information pertaining credit which affects decision to borrow by consumers. Consumers who live or work in environments which highly exposes them to risk will face higher probabilities of delinquency. Due to growing competition in the financial sector, households in South Africa borrow large amounts while meeting less stringent credit application requirements. Lenders have no control over the risks incurred by borrowers with unsecured loans, thereby increasing the likelihood that borrowers will default (Zimunya & Raboloko, 2015). The predatory practices by lenders are the cause of indebtedness amongst the low-income groups, not financial illiteracy (Guerin, 2012). There is need for legal mechanisms to help debtors if they find themselves under over indebted situations, in the form of consumption insurance and protection them from creditor actions such as, repossessions, or wage garnishments (Van Apeldoorn, 2008). What is necessary also are sanctions for predatory lending to reduce the propensity for bad loan origination (Goodman & Smith, 2010; Ho & Pennington-Cross 2006).

Other studies suggest that over-indebtedness is unavoidable. There is no compelling evidence to suggest that excessive spending is related to consumer debt delinquency, and it is unlikely that there will be enough information to warn lenders of the possibility that debtors will experience economic shock post-consumption. Therefore, it makes sense to accept consumer over-indebtedness as an inevitable feature of the credit system (Centre for Social Science Research, 2016). The occurrence of high household debt can be a cause or a result of poverty (Dubois & Anderson, 2010). With high servicing costs towards debt a household's disposable income is reduced significantly leading to deprivation materially while on the contrary with poverty households have insufficient income and they become over indebted ending up below the poverty line with continued rising debt. Households that are over-indebted are likely to have a higher rate of basic deprivation (Russell et al., 2011). Debt problems negatively affect the well-being of people and well-being is affected more by debt than low income (Howell & Howell, 2008). Studies on the debt-poverty nexus found a link between low income and over indebtedness (Kempson, 2002; Bryan et al., 2010)

There are studies carried out to find out the relationship between the demographic aspects of household head and debt. On the impact of educational level of the household head on over-indebtedness, there are contrasting views. Some evidence suggest that education reduces the probability of over-indebtedness (Bryan et al., 2010). According to Russell et al., (2011) where the head of the household has no educational qualifications, the household is likely to be over indebted. However other literature suggests that having tertiary education increases the probability of over indebtedness (Nyaruwata, 2009). Studies show that the problems of debt decline with age and the 25–35-year age group experiencing the most financial difficulties (Kempson, 2002; Kempson et al., 2004). On the contrary, Nyaruwata (2009) argued that although statistically insignificant, the probability of over-indebtedness increased with age, given that older household heads had more dependents to look after. Bryan et al., (2010) gave an alternative view that age has little impact on the probability of being over-indebted. Biyase & Fischer (2017) investigated the determinants formal credit in South Africa by low-income households using the Heckman selection model. Their findings revealed that variables such as age of the household head, gender, educational level, employment, race and geographic location of households in South Africa have an impact poor households' propensity to borrow.

There is also a relationship between household characteristics and indebtedness, as there is a lower risk of over-indebtedness when the household owns the house as compared to renting (Kempson et al., 2004). Further, household with mortgage have a higher risk of being overindebted than households who buy outright (Department for Business Enterprise & Regulatory Reform, 2007; Bryan et al., 2010). Studies also found that tenants are more likely to be overindebted than mortgage holders (Kempson, 2002; Kempson et al., 2004; Department of Trade and Industry, 2005; Russell et al., 2011). As expected, a household larger in size has a higher probability of being over-indebted (Nyaruwata, 2009; Bryan et al., 2010). Studies on the relationship between family circumstances and over indebtedness concluded that family events such as having a baby or a breakdown in relationship increased the likelihood of over-indebtedness (Department of Trade and Industry, 2005). This can be attributed to increased costs or reduced income that comes as a result. Other studies suggest that divorce or separation or being a lone parent increase probability of over indebtedness (Russell et al., 2011; Bryan et al., 2010). On the contrary, Kempson et al., (2004) found no significant association between over-indebtedness and separation or having a new baby. Literature also suggest that female-headed households are more likely to be over-indebted than male-headed households possibly since they work fewer hours and get less incomes as they have maternal responsibilities (Russell et al., 2011; Department of Trade and Industry, 2005). Where the household head is not working, is sick or disabled, over indebtedness is likely to be experienced (Russell et al., 2011). The next section gives the results of the study.

Results

The problem of household over-indebtedness in South Africa affects the well-being of households as well as economic performance of the country. Despite the fall in household debt to disposable income ratio over the years, the ratio is now on an upward trajectory since 2018, with unsecured debt increasing faster than household disposable income. Hence some measures are necessary to address growth in household debt. Several findings are made from the paper on nature and determinants of household debt in South Africa. Mortgages constitute most of the debt held, at 52% of debt followed by secured credit agreements. The least held debt is short-term credit at 0.2%. Thus, policies to address growth of debt should target mostly mortgages and secured credit agreements. Results suggest that households with a mortgage have a higher risk of being overindebted than households who buy outright. Further, households in South Africa are indebted because they lack the necessary financial skills. They need upskilling on financial skills to avoid overborrowing or misusing credit. Debtors lack proper protection from the predatory practices by lenders which cause indebtedness. Further, expansion of the banking sector and diversification of its products are found to contribute to the growth of household debt. Thus, sanctions are needed for predatory lending to reduce the propensity for bad loan origination. Lenders should disclose vital information pertaining credit which affects decision to borrow by consumers. Other factors related positively to indebtedness are rising cost of living and low household disposable income, low household savings, high interest rates and consumer price index. Some misfortunes or adverse trigger

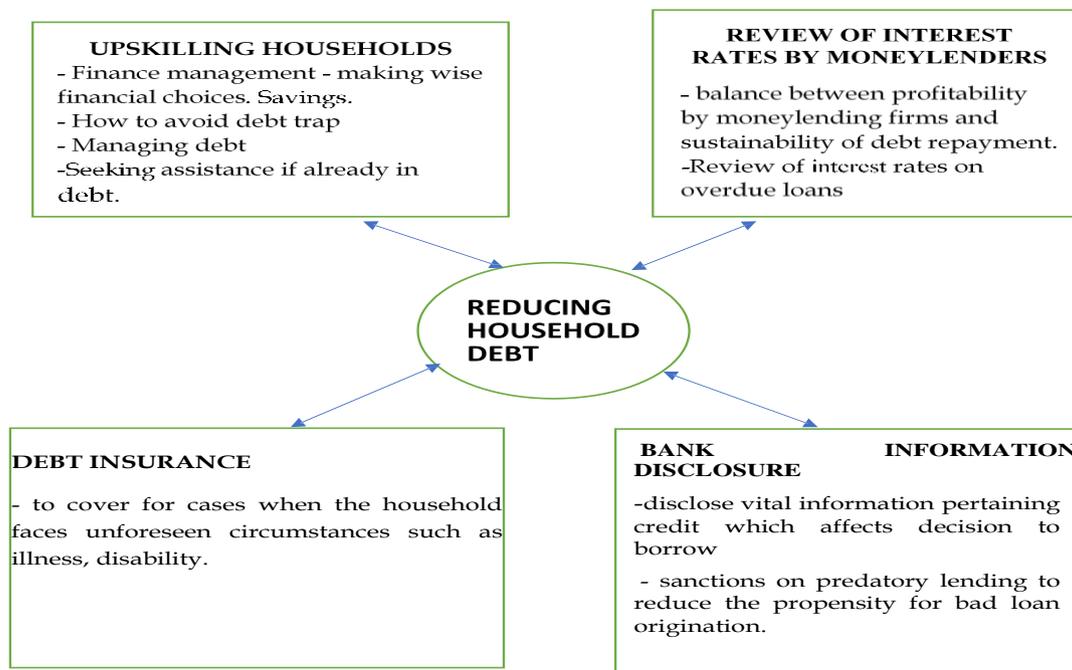
events have also been found to trigger over indebtedness while some shifts in earnings can cause delinquencies to occur.

There are conflicting results from literature pertaining causes of over-indebtedness. Some results suggests that indebtedness increases significantly with living in an urban high-income area, as there is access to financial services. However, on the contrary other results suggest that over-indebtedness is much more likely for poor households due to low incomes. There is also conflicting evidence on relationship between education and age with respect to debt. Results from some literature suggests having education or being older in age reduces the probability of over-indebtedness while other literature suggest that having tertiary education or being older in age increases the probability of over-indebtedness. There are also conflicting results on social security grants as some literature concludes that the grants reduce the probability of being over indebted while other literature suggests that households relying on social grants for more than 25% of their income have a high chance of being over-indebted. Findings also suggest that female-headed households and households where head is not working, is sick or disabled are more likely to be over-indebted. The risk of over-indebtedness is lower for households that own the house as compared to renting. Life events such as having a baby or a breakdown in relationship increase the debt likelihood. Large households have a higher probability of being over-indebted and tenants are more likely to be over-indebted than mortgage holders.

Recommendations on managing household debt

From the review of literature, a framework for managing household debt in South Africa is developed. The framework has 4 components as shown in Figure 3 namely upskilling households, review of interest rates, information disclosure by moneylenders and availability of insurance. These components are a summary of measures that can be implemented to reduce household debt. South Africa was found to have the lowest number of economically literate people, and second lowest number of financially literate people from a survey, meaning that there is need to upskill households to ensure they have necessary skills and knowledge to manage finance through the NCA (No. 34 of 2005).

Figure 3: A framework for managing household debt in South Africa



Source: Author's compilation using results

Although several programmes and initiatives were implemented to educate citizens on debt, the initiatives have not been very effective judging by debt-to-income ratio. This calls for participation by different stakeholders to support the NCR such as learning institutions in assisting households to

understand how to effectively manage their finances and debt. Findings suggest that there are both demand and supply-side factors that account for the high household debt in South Africa. Therefore, there is need to address these factors. As money lending institutions expand and diversify their products, they need to be wary of impact on growth of household debt. Thus, it is important for them to disclose vital information pertaining credit which affects decision to borrow by consumers. Thus, predatory lending should be discouraged, and debt contracts should not be vague.

Another issue to be considered is that of interest rates on debt repayment and on overdue repayments. Moneylending firms need to consider a review of interest rates to make a balance between their profitability and sustainability of debt repayment by households. Thus, it may help to reduce household debt if the firms charge affordable interest on loans. Debt or consumption insurance on all loans to cover for cases when the household faces unforeseen circumstances such as illness, disability may also help relieve households from the debt burden. Thus, moneylenders need to work with insurance companies to enable debt insurance to protect debtors. There is need for legal mechanisms by the Government of South Africa to protect and help debtors if they find themselves under over indebted situations. Above all, households need to practice responsibility by gathering information and considering ability to repay before borrowing.

Conclusions

We conclude that mortgages constitute most of the household debt in South Africa. There are several causes of over-indebtedness of households. These include lack of financial literacy and lack proper protection from the predatory practices by lenders which cause them to enter into debt without considering the impact and affordability. The increasing cost of living coupled with low household disposable income leads to low or no savings leading to household increased debt. Other causes are high interest rates and misfortunes or adverse trigger events. Household debt is also affected positively or negatively by educational level, gender, age, health and employment status of the household head, whether the household is renting, has a mortgage or whether it receives a social security grant and household size. The measures to reduce household debt in South Africa are upskilling households on financial literacy, review of interest rates on debt, information disclosure by moneylenders and availability of insurance for debtors.

Contribution to knowledge and implications for different stakeholders

This paper contributes to new knowledge as it explains the nature of household debt and comes up with a new framework on how best to manage household debt, using the case of South Africa. This framework can be adopted by stakeholders concerned to help households lessen the burden of debt. There are implications for different stakeholders emanating from the paper. These include learning institutions and their role in upskilling financial literacy and debt management skills as well as banks and moneylenders on ensuring information disclosure and review of interest rates. Insurance companies have a role in providing debt or consumption insurance and the government's role is ensuring legal mechanisms to help and protect over indebted households. The households need to act more responsibly and seek more information to avoid falling into the debt trap.

Limitations and direction for future research

The limitation faced is that literature on household debt with specific reference to South Africa is not widely available. In future, research may focus on econometric analysis of variables that affect debt in South Africa and in depth understanding the characteristics of household debt.

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The impact of corruption on service delivery: a topical matter in the South African Municipalities

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Keywords

Corruption, service delivery, municipalities, personal interests, South Africa.

Abstract

One of the topical challenges facing South African municipalities recently is corruption. From time-to-time citizens learn about and witness the corrupt practices of public officials in the Local Government sphere. Arguably, the phenomenon of corruption has both direct and indirect impact on service delivery with specific focus to municipalities. Section 152(1) of the Constitution of the Republic of South Africa (1996) states that the Local Government sphere has the mandate to ensure the provision of services to communities in a sustainable manner. Subsequently, some of the communities across the country still wish to have access to basic services namely: water, electricity, community halls and proper tar roads to name a few. As a result, at times it seems impossible for municipalities to smoothly render such services due to corrupt practices emanating in the South African Local Government sphere. This article aimed to explore the impact of corruption on service delivery in the South African municipalities. The article fully relied on secondary data as it collects information from newspapers, books, journal articles, conference proceedings, officials report and academic dissertations. In pursuit of all this, Afrocentricity: a theory of social change has been placed in context with a view that the needs of the society should be placed at the center of the local government sphere. To be specific, these needs are but not limited to water and electricity. Looking at the findings of the study, indeed literature can confirm that corruptions have negative impact on the ability of the municipalities in South Africa to provide basic services. Because the interests of the public are competing with those of the municipal officials. Therefore, at the end of the day service delivery is compromised due unlawful practices.

Introduction

Corruption has become an inevitable concern for citizens, academics, opposition parties and possibly the ruling party. This is so as unethical practices (corrupt practices) within South African municipalities are reported from time to time in the media space. As such, these practices affect the delivery of services (housing, water, electricity, and waste removal) to constituents. Service delivery has become a tormenting issue in South Africa (Raophala, 2013). To a certain extent, the rendering of services to community members in an effective and efficient manner becomes slightly impossible due to corruption rooted in the Local Government sphere. According to the former President of the Republic of South Africa (Mbeki, 2000:15), South Africa still has households living under poverty conditions and improper infrastructure, regardless of Section 195 (1) of the Constitution of the Republic of South Africa 1996 emphasising that citizens needs must be responded to. At the same time, the practice of corruption is a challenge for less developed nations in the sense that resources that are allocated to address socio-economic and developmental objectives are sometimes used by individuals in the local government sphere to benefit few individuals meanwhile neglecting the core functions of municipalities (Soliman & Cable, 2011). As a result, members of the public and distinguished stakeholders are continuously concerned with corruption in the South African municipalities because it affects the livelihood of households including taxpayers by causing a decline in service delivery, neglecting economic growth and eroding the legitimacy and the functioning of the sphere of government that is closer to the constituents. In this context, this article seeks to explore the impact of corruption on service delivery using South African municipalities as point of reference. The section after this one will deliberate on the theoretical framework that the article is rooted on.

Afrocentricity: A theory of social change

The argument of this paper is consolidated by the theory of afrocentricity. The use of this theory in the paper assists scholars, government and the society at large to understand that African countries should prioritise the interests of the public. This includes basic services. In his motto, Asante (2002) stated that "It is not enough to know, one must act to humanize the world". This is a clear example that he is emphasising for the centrality of African interests and perspectives in today's world. Afrocentricity: A Theory of Social Change, it was first made open to the public in 1980 and in 2003 it was revised, this theory came into existence in an attempt to guide states on how to become Afrocentric. This theory goes on to deliberate about the need for members of the public to run away from victimisation. The theory is indeed relevant as it makes the government to be conscious about the needs of the public. It raises consciousness about members of the public who are often neglected and victimised, particularly in African countries. Asante places the concept of Afrocentricity in context with a definition that states "a mode of thought and action, putting members of the public in African countries at the forefront. This scholar proceeds on to develop this definition more fully with a view of discussion of the theories and ideologies that form the basis of Afrocentric thought, a comparison of his revolution to other major social revolutions and means for individual achievement of Afrocentrism. Some of the arguments in this theory are the power in African countries to transform the lives of their constituents. Asante stresses the need to change attitudes, character, values, and behaviours to accomplish an informed consciousness that is centered around doing things in an African way while prioritising the needs of the society (Banks, 2004). It can however be stated that public officials in the South African municipalities should be conscious about service delivery implications that might arise as a result of unethical practices (corruption) from their institutions. Because members of the public end up being victimised with lack of service delivery due to unlawful practices such as corruption. If members of the public continue to be victims of poor service delivery, then municipalities should understand that it is their constituents who suffer the most at the end of the day. This article therefore concludes that municipalities should stop victimising members of the public with lack of services while officials are putting their personal interests at the forefront. Otherwise, it is through proper service delivery that the dignity of the society can be restored.

Corruption in the context of local government

The term of corruption can be described in different ways depending on the point of perception of different people (Mafunisa, 2007). In line with that, the concept of corruption can be described as an unethical practice that is not morally acceptable in the municipal environment. On the other hand, Pauw, Woods, Van der Linde, Fourie & Visser (2009) suggested that the term can be explained as the abuse of position in the workplace to fulfil personal interests or interests of a particular group of individuals a municipal official is associated to. These scholars are of the opinion that corruption takes place in two ways that has to do with internal and external individuals who pursue unethical practices that weakens the municipality's social and economic responsibilities. De Graaf (2007) deliberated those corruptions in the public sector becomes visible when public officials sell government resources in an attempt to fulfil personal interests. A practical example, municipal officials sometimes collect bribes from prospective services providers (tenderpreneurs as they sometimes refer to them as such) in exchange for favours and tenders. Porta (2012) viewed corruption differently, this scholar believes that corruption occurs in the form of favouritism, nepotism, clientelism, vote-buying, fraud and maladministration. Subsequently, practices of such nature weaken the ability of South African municipalities to provide sustainable services to communities smoothly. On the other hand, Faull (2007) claimed that for any act to be regarded as corruption it must have elements of abuse of power assigned to a municipal official for private gain. Nonetheless, in this context, corruption can be viewed further as an unlawful activity of awarding of tenders and jobs to immediate family members and misappropriation of municipal finances and assets for personal benefits (Kanyane, 2005; Mafunisa, 2007; Edwards, 2008; Ruhiiga, 2009). In an attempt to place the meaning of corruption in context, The Brazil Business (2012) contended that exchanging of benefits to authorities with a view of being given favours in the near future is also corruption. For instance, offering financial resources to a municipal official with a view of being awarded a tender in future is one of the practical examples of corruption. In view of all this, this article proceeds on to argue that corruption can take place in two ways, either directly or indirectly. For example, a tenderpreneur can voluntarily offer a

gift either in the form of money or otherwise to a senior municipal official without the official being aware of the exact motive behind that offering. Therefore, at a large stage the giver might need a favour that might require the same official to eventually deviate from lawful ways of doing things in an attempt to return the favour to the same individual who once offered a gift to the official. On that note, this article argues that corruption can be defined in many ways depending on the context one uses to provide clarification on the concept itself.

Unpacking the concept of service delivery

At times members of the society witness service delivery protests that take place in various communities across the country. However, the aim of this section is not to dwell much on service delivery protests. This section seeks to provide clarification on the concept of service delivery. It is worth deliberating that before the article can attempt to unpack the impact of corruption on service delivery, it is of paramount importance to provide a clear understanding of what service delivery is and how does it look like. The paper goes on to pose an answer seeking question: What is service delivery in the context of local government? Secondly, does those who normally protest in relation to service delivery understand what the concept is all about? In an attempt to address these questions, service delivery refers to services rendered to citizens of a country by the local government sphere (Ardigó & Chêne, 2017). Additionally, Canada (2002) stated that service delivery is the organizational and structural obligation of improving the municipality's performance through the rendering of basic services. These basic services include but not limited to water, electricity, waste management services, infrastructure, and shelter. In consistent with that, Section 26 and 27 of the Constitution of the Republic of South Africa 1996 justifies that everyone has the right to adequate housing and water as part of services that should be rendered by the local government sphere. Chen, Dean, Frank and Kumar (2014) added that service delivery is a common term in South Africa which is used to describe the provision of essential services which households cannot live without. These scholars proceed on to describe service delivery as an end user-based model that offers a reliable and readily accessible system. Moreover, service delivery is described as a situation where the beneficiary knows what to expect from the service provider, which is the municipality in this context. Over and above, it is equally important to understand that service delivery involves an integrated process of providing subsidised, charged and non-charged essential services to community members. On the other side, the term means availing basic services to community members (Johannison, 2007; Venter, 2010). It can then be acknowledged that service delivery in the context of local government is when South African municipalities fulfill their constitutional and legislative mandate by providing basic services to every individual who resides in South Africa. The section below will unpack the impact of corruption on service delivery.

Corruption delays service delivery

As it was stated elsewhere that this article is rooted on the exploration of the impact of corruption on service delivery in the South African municipalities. In line with that, there are many scholars who have deliberated on the topic under exploration. However, this article argues that as far as corruption is concerned in the local government sphere, it should be acknowledged that it has negative impact on the ability of municipalities to render services smoothly. As a result, service delivery is in one way or the other compromised due to personal interests of the municipal officials that emanate as and when essential services should be rendered to members of the public. In view of all this, Chene (2014) stated corruption impact service delivery in the sense that clientelism, patronage and bribery compromise the rights of citizens against equal access to municipal services while promoting inequalities that limit constituents' access to basic services. Consequently, the poor and voiceless residents end up being affected the most along the process. Oslo Governance Centre (2004) added that corruption can lead to a decline in the service delivery performance, as such this can prevent citizens from accessing basic services. Therefore, this causes inequality in the communities as the privileged ones can afford to pay for private services. Furthermore, Kroukamp (2006:207) stated that corruption is especially harmful in a developing country such as South Africa due to the fact that this country tends to have fewer resources and need to use these scarce resources in the most effective way as well as a lack of confidence in the government. Flowing from this perspective, Manyaka & Nkuna (2014) argued that *"the overall goal in the fight against corruption in the*

public sector is to improve service delivery. This can be achieved by bringing sustainable reduction in corrupt behaviour and improving good governance". This is a clear indication that corruption negatively impacts service delivery. Municipalities could save a lot of money by objectively fighting corruption in the local government sphere. Flowing from this argument, the Local government sphere losses a huge number of financial resources that are meant for various purposes including service delivery. According to Consumer Goods Council (2006), R50 Billion to R150 Billion is lost in South Africa on yearly basis because of unethical practices such as corruption. In pursuit to highlight the impact of corruption on service delivery, Makwetu (2019) the potential R1, 6 billion losses of investments made with VBS mutual Bank also crippled the financial reputation of the sixteen affected municipalities, and this had impact on the rendering of infrastructure and maintenance projects. The former Auditor-General used a project at Metsimaholo Local Municipality in Free State, where in a project to construct a R21,9 million sports complex, 99% of the money was utilised but there were no tangible structures to indicate that the project has indeed materialised. In line with the audit report from the Auditor-General, it can then be stated that corruption does exist in the South African municipalities and to a large extent it worsens the state of service delivery within communities.

Furthermore, Kaufmann (1997) acknowledged that corruption disadvantages economic development. This is so because resources that are meant for developmental initiatives in the society are often used for personal gains and interests. According to Madonsela (2010) it should be admitted that corruption is one of the contributing factors to slow development. This phenomenon causes, among others, poor service delivery, use of more resources while getting less output and excessive costs. This statement is seconded by Staphenurst (2006) who wrote that corruption in the local government sphere disadvantages the poor as they fully rely on public services. Additionally, corruption exhausts financial resources that can be utilised for rendering of basic services. Corruption is a societal concern as it affects everyone whether rich or poor. In an attempt to emphasis this, it can be asserted that corruption mostly affects the poor as they continue to be vulnerable and victimised due to inaccessibility of services from their local municipalities. On that note, corruption weakens the ability of municipalities to uplift community members within the jurisdiction of their respective municipalities (Makhanya, 2014). Based on the reviewed literature, it can then be concluded that corruption negatively impact service delivery in many ways. However, this article concludes by emphasising that dealing with corruption should be the starting point of every municipality in South Africa with a view of prioritising the human rights of all community members. Therefore, service delivery should be at the center of each and every municipality.

Research methodology

The objective of this paper was achieved through extensive review of readily available (secondary) data that corresponds with the topic under exploration. This includes newspapers, journal articles, conference proceedings, academic books and government reports. The adoption of this research design was necessary with a view of establishing the extent to which corruption negatively impact service delivery, particularly in the South African municipalities.

Conclusion and recommendations

This paper explored the impact of corruption on service delivery with specific focus to South African municipalities. This was important for the researcher to establish the extent at which corruption negatively impact service delivery. Therefore, the goal of the study was successfully achieved. In light of this, the paper concludes by stating that while corruption has become a major concern in the South African local government sphere, it is important to highlight that this unlawful practice continues to have a huge impact on the ability of municipalities to provide services to members of the community in a sustainable manner. This is so because financial resources that are meant for service delivery are often used for personal interests. Therefore, this delays municipalities to provide essential services to community members and to a large extent beneficiaries continue to be victimised with lack of service delivery. It can therefore be concluded that municipal officials should at all times remember that it is the beneficiaries of public services who suffer the most as a result of unethical practices that are rooted in the municipalities. However, the core responsibility of municipalities is to provide basic services efficiently and effectively. Therefore, adequate service delivery can only be possible once the local government

sphere is willing to deal harshly with those who do corruption at the expense of community members and taxpayers. Otherwise, corruption is one of the contributing factors to slow provision of services to community members.

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Role of fashion as a form of therapy among women with disabilities in South African

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Keyword

disability, body image, fashion, women with disability, Johannesburg, South Africa.

Abstract

Previous studies have highlighted the important role, fashion can play in one's cognition and behaviour and how one's body is impacted, especially people with disabilities. Due to the inconclusive results on the topic, we decided to undertake an empirical study in South Africa to determine how fashion can be used to help women with disabilities deal with issues of body image, low esteem and negative mindset. The study reviewed the literature on body image and disability, body image and fashion as well as on fashion therapy and body image. The study adopted a qualitative research design while interviews were used as means of primary data collection. Data analysis was done by means of coding the participants' responses before conclusions were drawn about the participants' views. Findings reveal that fashion can help women with disabilities to deal with issues related to low self-esteem and body image. The study ends with recommendations to include other segments of the disabled community in the study, as well as to expand the study in the other parts of the country.

Introduction

Many women with disabilities are experiencing issues with body image and low self-esteem in their living environments. This has led to the development of studies on how disabilities affect body image and how women with disabilities, especially those between the age of 20-35 use fashion as a form of therapy. In South Africa, "disabilities" is an umbrella term used to define impairments, activity restrictions or both, that individuals may face over a long-term or recurring period (South African Employment Equity Act 55 of 1998). In support of this definition of the Act, the South African Human Rights Commission (2017) stipulates those impairments may be of a physical and/or mental nature, where a physical impairment relates to "a partial or total loss of a body function or part of the body" while a mental impairment is a condition which impacts one's "thought processes, judgment or emotions".

Consistent with the above definitions and in line with the current study, Tiwari & Kumar (2015) described the concept of body image as relates to the "perceptions" individuals have of their bodies, often relating to physical features, impacted by society one's body image has the ability to affect their mental health and "well-being".

Venkatasamy & Saravanan (2015) postulate that not enough researche have been conducted to investigate how fashion can be used as therapy, specifically for people with disabilities. Generally, fashion is used for artistic, cultural, communication, political and various other reasons, and despite its significant amount of potential it has to help women with disabilities, it is rarely used for the betterment of society.

However, as stated by Son, Kim, Lee & Lee (2015), this distant attitude towards the therapeutic role of fashion has started to shift its position in society as many have noticed the positive impact that fashion now has on people's "attitude, behaviours and emotions". Son *et al.*, (2015) go further and explain that fashion is also used as a form of "grooming" to better physical appearance and acts therapeutically, as it improves body image; therefore, positively impacting one's mental health.

This study aims to make a contribution in the way people understand disability among women, and how fashion can be used to deal with issues that affect women with disabilities in a South African context.

Literature review

In situations where individuals have visible impairments, one's body image is often negatively impacted as they are often discriminated against by society and seen as imperfect for not looking like a non-disabled person, therefore, causing individuals with disabilities to feel embarrassment and self-

loathing, as their emotions towards themselves are moulded by societies' opinions about them (Taleporos & McCabe, 2002). Regardless of this old literature, the core of their work about human behaviour, body image and disabilities remain relevant as it is still on par with recent research stating that self-image is directly related to one's "mental health" (Shpigelman & HaGani, 2019:2-3).

Based on the positive impact that fashion has on individuals, it is safe to say that the discipline of fashion could potentially be used to make positive changes in one's body image, improving the state of mind that individuals with disabilities have about themselves. It is also possible that the use of Fashion Therapy (FT) could not only have an impact on women with disabilities but also society and its view of people with disabilities.

Body Image and Disability

Grogan (2006); Cash and Smolak (2011); and Bailey, Gammage, van Ingen and Sarcone (2017) contend that "body image is a construct with cognitive, behaviour, and emotional elements as they relate to physical appearance". This suggests that body image is a result of the way one thinks, feels and acts, in connection to the way that an individual look.

Taleporos and McCabe (2002); Shakespear, Gillespie-Sells, and Davies (1996) speak about how people with physical disabilities are immediately shamed by society due to their conditions. This results in these individuals looking down on themselves and struggling with poor self-esteem. Based on the poor body image formed by the cynical impact society has on women with disabilities, their "cognition, behaviour, and emotions" suffer. These women with disabilities are trained to see themselves the way society perceives them, linking back to Sarcone (2017).

Furthermore, Taleporos and McCabe (2002) and Mayers (1978), postulate that women with a disability need to be trained to look at themselves in a full-length mirror and work toward seeing themselves as attractive and not as the ugly creature that some societies had pushed them to believe they were. A woman with a disability can use fashion to feel beautiful and confident, gradually building on her body image and self-esteem. By using fashion for these reasons, she is training herself to believe that she is beautiful, thus relating to FT.

Body Image and Fashion

Dimka, Kabel and McBee-Black (2017) speak about the psychology of clothing and how fashion has a positive impact on one's mental health, self-esteem and therefore, one's body image. Dimka, Kabel and McBee-Black (2017) and Turner (1993) report that the embodiment of clothing could act as a "social skin", as clothing impacts one's body image and mental health. The "social skin" implying that fashion can be used to better one's body image. Dimka, Kabel and McBee-Black (2017) also express that the feel of specific clothing or accessories can evoke memories in people with mental disabilities. By evoking memories in people, the garment or accessory is likely to act as comfort for individuals, allowing them to develop confidence and an improved body image. Sarcone (2017) cites Tomas and Marron (2016) and McDermott, Mullen, Moloney, Keegan, Byrne, Doherty, Cullen, Malone, and Mulcahy's (2015) work to explain that fashion is used as a "canvas" where individuals can express themselves, and can; therefore, relate to the "social skin", where individuals can use clothing to express themselves confidently.

Additionally, Son et al., (2015) posit that fashion influences one's "attitudes, behaviours, and emotions", while Sarcone (2017) explained that one's body image is influenced by one's "attitudes, behaviours, and emotions". Both authors, together with Dimka, Kabel and McBee-Black (2017) substantiate one another in their works, as they all link and correspond with one another.

In a different view, Mair (2018) expresses that the ideals of beauty change with time and that many "people want to match the ideals of their time and culture". The incurred poor body image is because their disabilities differentiate them from what society deems normal and attractive. Irrespective of whether individuals are able or disabled, the urge to fit in with current times relates to one having a sense of security. Therefore, a better self-esteem and body image is related to fashion conformity, as fashion acts as an outward appearance and "social skin", which is substantiated by Turner (1993), cited in the work of Dimka, Kabel and McBee-Black (2017:19), and Masuch and Hefferon (2014:235).

Fashion Therapy and Body Image

Son et al., (2015:114-115) cite Horn and Gurel (1981) and Thompson (1962), expressing that FT is a form of “psychotherapy”. Therefore, FT could potentially enable individuals with disabilities to improve their body image and self-esteem through the use of fashion, as fashion has the ability to change the appearance of people. FT, as a form of “psychotherapy”, could be successful if used by women with disabilities to improve their body image. Literature substantiates that FT can be used to enhance one’s body image, as fashion influences how one acts and thinks (Adam & Galinsky, 2012:918-919). The influence on one’s mind and behaviour impact on their body image and self-perception (Dimka, Kabel & McBee-Black, 2017:18-20).

Revisiting what Dimka, Kabel and McBee-Black (2017:18-20) expressed in *Body Image and Fashion*, clothing that is of significance and comfort to someone with a disability could improve their self-confidence and mental health. These improvements are due to the clothing acting as a comfort zone for them. The clothing, therefore, allows the individual to feel confident and happy in their skin (Dimka, Kabel & McBee-Black, 2017:18-20). Turner (1993) cited by Dimka, Kabel and McBee-Black (2017:19), states that fashion as a “social skin” could impact one’s body image and psychological state. This impact confirms that fashion can act as a form of therapy for women with a disability.

Dimka, Kabel and McBee-Black (2017:18-20) further reports that one can be reminded of memories by the touch and feel of garments and accessories. If women with disabilities use fashion that has happy and positive memories attached to it, the memories would influence the behaviour and emotions of the individual, and potentially have a therapeutic value Sarcone (2017), and this ties in with the aim of the study. The work of Sarcone (2017) can be useful in the development of this study as it touches on the psychology of body image; as well as, body image and fashion, allowing for a deeper understanding that is valuable to the study.

Moody, Langdon and Karam (2018) cite Moody et al., (2009, 2010) and Kang, Johnson and Kim (2015), substantiating the theory that one’s behaviour, emotions and cognition are potentially impacted by fashion, overall having the ability to shape the “well-being” of the user. Again, this literature works to prove the theory and objectives being researched in this study, as FT can be used to better one’s emotions, cognition and actions, which in turn has a positive impact on one’s body image.

Research methodology

The study being conducted is qualitative since the purpose of this study is to gain rich, meaningful information that helps develop understanding to improve and better individuals and society. Being psychology-based research, the methodological choice used in this study is qualitative, as the study uses a qualitative approach to investigate and find understanding around, fashion, body image, therapy and people with disabilities (Creswell, 2014:4).

The research strategy

Due to the nature of this study being qualitative, it is implied that the study is looking for accurate, unbiased and meaningful data, which verifies the choice of using a survey as the research strategy. By means of interviews, the study used a narrative research strategy where participants recounted their stories about their experiences of living with disabilities.

Population

The population of this study are women between the ages of 20-35 with disabilities living in Johannesburg. This population is unknown and difficult to quantify without official South African statistics.

Sampling

The sample group chosen to represent the population for this study is based in the workplace of Progression, where all learners have either a physical or mental disability. The sampling technique used in this study is the convenience technique, due to the sample group being based in the workplace, collecting data only from those willing to participate (Alvi, 2016). The convenience technique is appropriate for this study as the research is based on women with disabilities, which is the majority of Progression’s learners. The sample group is women aged 20-35 years and are all residing or working in Johannesburg. All

participants have been diagnosed with a long-term disability by a medical practitioner, of which, their medical notes confirming their disabilities are verified and checked by the employers. The sample size chosen to represent the group of women with disabilities is approximately 30 respondents, as the sample group needs to be large enough to provide an accurate, reliable and relevant representation of the population it is representing.

Data collection and analysis

In this study, data is collected by means of interviews. Once the data was collected, it was analysed using colour coding according to the question, and the answers to each question were coded by a key. Lastly, each question was coded with a shape in accordance with the category the questions and answers fall under. For instance, each category such as “user-psychology”, “body image and disability”, “fashion and therapy”, and so forth would each have a corresponding colour, as data analysed can be colour coordinated according to the categories. Once coded, the categorised data was analysed, and the coding was reviewed, funnelling down the data and ensuring that only what is relevant is being used. The reviewing and funnelling of data occurred at least three times to ensure a thorough analysis of data. Notes were made during the coding process, as reminders of meanings, and concepts that are being brought up or carried through the research. Once the coding process was complete, the data was interpreted, and any qualitative findings were displayed visually to enable easy reading and analysis for the reader. Ways in which data were visually represented include tables, diagrams and charts.

Questionnaire Development

There was no existing questionnaire to fulfil the purpose of this study. Therefore, the interview schedule was self-designed. The point of departure was the identification of gaps in the literature, from which the questions were formulated.

All questions were developed to answer each research question, as well as, to fulfil the research objective and purpose. In this process, the questions were carefully worded and phrased to prevent any ethical issues, leading questions or misunderstanding. All questions were drafted and developed while writing out the literature review and research objectives. The questions were written as drafts, from which they were continuously revised and edited until they were at a satisfactory level.

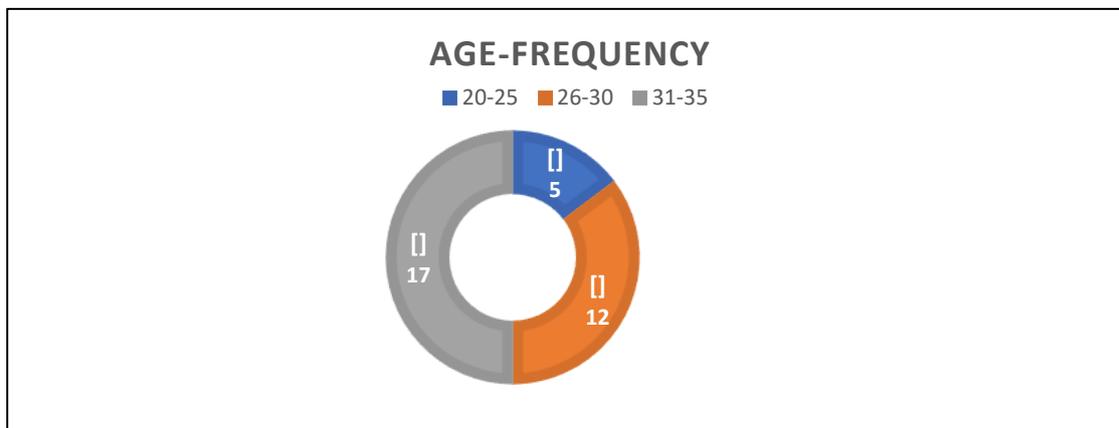
Lastly, the questions were re-arranged to create a logical and smooth flow. The questionnaire is deemed valid as it has been reviewed and approved by experts in the field. These experts had assisted in the process of revising and modifying questions, ensuring that the questionnaire aids in achieving all objectives of the study. Furthermore, the review process ensured that all questions were in line with the literature review and objectives being studied.

Findings/results and their discussions

Participant's identities

This study intends to identify and explore, through the views of their medical notes confirming their disabilities are verified and checked by the identified sample group, whether fashion can be used as a form of therapy to improve the body image of women with disabilities. The participants in this study are representative of all types of disability, as the study does not focus on the distinction between physical and mental disabilities. In this study, of the total of 34 participants between the ages of 20-35 that were surveyed, 50% of participants were in the age range of 31-35, 35% aged between 26-30, and only 15% of participants were aged 20-25 (as seen below).

All participants either work or reside in the Johannesburg region. This geographical data is evident in Question 2; as well as, by the survey being conducted in the workplace (Progression). All participants are learners at Progression and therefore it is evident that they have a professionally diagnosed disability (as a medical certificate is required for a learnership position at Progression).



This chart shows the age group statistics of participants and the frequency of each age group.

The impact of disabilities on body image

The majority of the participants believe that their body image is not affected by their disability, this could be a result of the fact that many individuals have dealt with and accepted their body image, however, it seems that many participants did not understand the term body image, despite being provided with the definition. This misunderstanding seems apparent as many participants speak about the actual appearance of their body, rather than the way they view and feel about their body and appearance. The potential misunderstanding could cause participants to answer out of context, therefore, creating an error in the data. Additionally, many participants stated that their body image is not affected by their disability as their disability is not physical and visible; therefore, they are not judged by society. This finding relates to Taleporos and McCabe (2002) who state that those with more significantly visible disabilities are prone to a substantially poorer body image due to the barriers formed against them in comparison to those with milder or non-visible disabilities. Lastly, many participants stated that they deal with their body image by looking after their bodies and health, which could make them feel better and, therefore, improve their confidence and body image. Individuals that have and are still dealing with their body images relates to Taleporos and McCabe (2002) citing Mayers (1978), who speaks about training oneself to feel beautiful and confident.

On the contrary, many participants expressed that their body image does affect their self-esteem and body image, mostly due to many of these participants having visible disabilities (Mayers, 1978 cited in Taleporos and McCabe, 2002:972-973). Additionally, many explained that over time, they had accepted their disability, making them feel self-conscious. Furthermore, certain individuals underwent physical changes in their appearance over time, which can be the result of the inability of some participants to move enough or due to the physical changes caused by their disability. Such changes in their appearance due to their disability can cause a significant drop in an individual's body image as "body image is a construct with cognitive, behavioural, and emotional elects as they relate to physical appearance" (Grogan, 2006; Cash & Smolak, 2011; & Bailey, Gammage, van Ingen & Ditor, 2016 cited in Sarcone, 2017).

Many participants also expressed that they feel as though they cannot wear certain clothes due to their disability. These small yet significant restrictions on individuals cause them to have low self-esteem and body image, as their disabilities already cause differentiation between them and what society deems 'normal'. Now the differentiation seems more apparent to these individuals due to the struggle of finding fashionable and accommodating clothing (Mair, 2018; Shakespear, Gillespie-Sells, & Davies, 1996:3 cited in Taleporos and McCabe, 2002:971-974).

Influences of society

Based on data collected, the majority of the participants is or has been affected by the way society views them, proving that one's body image and self-esteem can be improved over time. Many participants feel that society makes them feel as though they are not good enough as "barriers" are formed against individuals with disabilities; therefore, negatively impacting their body image and self-esteem (Dimka, Kabel & McBee-Black, 2017:20). Some participants were laughed at and made to feel "stupid" as they are

“discredited” by society due to their disability (Dimka, Kabel & McBee-Black, 2017:18-20; and Taleporos & McCabe’s, 2002:972-973). Participants expressed that they are perceived as strange and incapable by society, causing them to lose confidence and self-esteem.

Similarly, many participants expressed that they battled to adjust to their disability and the way society treats them; however, with much work, they have reached the point of self-acceptance, making it easier for them to cope with their disability and society. This finding proves that there is potential in improving one’s body image. These individuals make a point of feeling good as they understand that society has a minimal understanding of disability, helping them attain self-love and an improved body image. For participants that are in the process of reaching this point of self-love and an improved body image, fashion is a good starting point, as one can use fashion as a “social skin” to feel good and confident (Turner, 1993 cited in Dimka, Kabel and McBee-Black, 2017:19).

On the contrary, many participants stated that the way society views them have no impact on the way they feel and view themselves. This lack of impact could be due to these participants having a mental or minor physical disability, therefore meaning that it is probable that participants do not receive adverse reactions from society, as society treats them like an abled person (Taleporos and McCabe, 2002:972-973). Additionally, it is possible that a participant who was born with their disability have accepted themselves and their disability and deemed themselves beautiful; therefore, not being moved by what society thinks of them.

The impact of fashion on body image

The majority of the participants in this study believe that fashion and body image are related. This finding is evident as participants feel that when they dress up, they feel good, therefore, impacting their confidence and body image. This finding confirms that of Dimka, Kabel and McBee-Black (2017:18-20) who states that fashion has the potential to have a positive impact on one’s mental health, self-esteem and body image. Individuals feeling confident when they dress up substantiates the work of Son et al., (2015:114-115) who states that fashion influences one’s “attitudes, behaviours, and emotions”, possibly meaning that the embodiment of fashion has the potential to change the way one perceives oneself.

Furthermore, more than 90% of the participants said that their clothing choice has the ability to improve their self-esteem and body image. Most participants stated that choosing to wear clothing that makes them feel good automatically boosts their confidence. This confidence boost uplifts their self-esteem and body image, creating a space for them to practice and develop self-love. The created space for the development of self-love directly relates to Mayer’s, (1978) cited by Taleporos and McCabe (2002:972-973), mirror concept where a woman needs to train herself to feel beautiful when she looks in a full-length mirror. Fashion can be a starting point for the practice of this concept, as a woman with a disability can view herself in a full-length mirror while wearing clothing that makes her feel attractive and confident.

Additionally, the majority of participants expressed that society treats them based on their fashion choices, impacting their body image and confidence. These participants expressed that fashion is a reflection of a person and their character. As women with disabilities, clothing act as a communicator between them and society, therefore, when an individual with a disability dress up, they tend to be treated better by society, as their clothing portrays a pleasant image of them. Using fashion as a communicator between an individual with a disability and society could relate to the “social skin” theory by Turner (1993) cited by Dimka, Kabel and McBee-Black (2017:19) where individuals use fashion as a “social skin” to portray an image of themselves to society. This image impacts the way society treats individuals with disabilities.

Furthermore, participants express that being noticed and treated well by society improve their body image and boost their confidence, making them feel good about themselves, linking back to the “social skin” theory. Lastly, participants feel that when they are dressed up, society tends to focus more on their clothing than their disability, again relating to the “social skin”, where this time the “social skin” can be interpreted as a cover or façade, allowing individuals to show society what they are most comfortable showing.

Moreover, participants feel that clothing made especially for individuals with disabilities could be beneficial for their self-esteem due to many reasons. One reason being, often many physically disabled individuals, grow frustrated as they cannot find clothing that accommodates their disability while being

fashionable, therefore discouraging them and lowering their self-esteem. Participants believe that customised clothing for physically disabled individuals provides variety and easy access to fashionable yet accommodating clothing, therefore, making women feel good about themselves as they do not have to struggle to find clothing.

This finding relates to the work of Mair (2018); Shakespear, Gillespie-Sells, and Davies (1996:3) cited by Taleporos and McCabe's (2002:971-974) where individuals with disabilities have poor body images due to their disabilities differentiating them from the norms of society. Therefore, due to this differentiation, these individuals have a strong urge to conform to the current fashion, creating an outward appearance that will help them fit in and be accepted by society. By eliminating the struggle and frustration of finding suitable clothing, women will begin to feel more comfortable as the clothing is accommodating of their disability, while acting as a comfort zone, allowing them to feel confident and happy in their skin (Dimka, Kabel and McBee-Black, 2017:18-20). As well as confident as they will not have the struggle of finding fashionable clothing and will be able to fit in with the current zeitgeist (Mair, 2018). The comfort and confidence experienced by the individuals will result in an improvement in their body image and self-esteem as they will deem themselves as "attractive" and "normal".

Fashion therapy

With the majority of the participants believing that their choice in fashion can improve their self-esteem, it is evident that fashion can be used as a form of therapy; therefore, FT. FT is used as a form of "psychotherapy", as one's behaviour, cognitive state and emotions are impacted by fashion (Horn and Gurel, 1981 & Thompson, 1962 cited in Son et al., 2015:114-115). Participants expressed that when they dress up, they felt confident, therefore, improving their self-esteem and body image. Similarly, many participants said they had used fashion to improve their self-esteem and body image. This use of fashion, where one deliberately uses fashion to feel confident and beautiful is a form of therapy, as fashion influences the way one thinks, act and feels (Adam & Galinsky, 2012: 918-919). This influence on the way one feels thinks and acts impacts their confidence, body image and self-esteem (Dimka, Kabel and McBee-Black, 2017:18-20).

Furthermore, participants believe that FT is an excellent place to start accepting their disability, as FT would help them use fashion and clothing to feel beautiful and value themselves more. By feeling beautiful and valuing oneself, the individual begins to gain confidence; as a result, improving their body image and self-esteem. Additionally, participants believe that FT is an excellent way to get participants to step out of their comfort zone and try new styles; thereby helping them to find what they are most comfortable in and what makes them feel most beautiful- in turn, influencing their body image and confidence.

Similarly, participants believe that the way society views them impacts their body image, as society treats them differently based on how they are perceived. Participants believe that what they wear will impact the way society views them; therefore, impacting their confidence and body image. This finding relates to the theory that individuals use fashion to create perceptions of themselves in society. This use of fashion uses clothing as a "social skin". The "social skin" creates an image or façade of one's actual self, influencing the way society views them (Turner, 1993 cited in Dimka, Kabel and McBee-Black, 2017:19).

The "social skin" also acts as a communicator between the individual with a disability and society, where the individual communicates and shows society only what they want to be seen (Tomas & Marron, 2016; and McDermott, Mullen, Moloney, Keegan, Byrne, Doherty, Cullen, Malone, & Mulcahy's, 2015 cited in Sarcone, 2017). Fashion as a "social skin" acts as a communicator, herefore, when an individual with a disability dresses up, society tends to treat them with more value and respect. As society begins to value these individuals, they start to feel accepted by the society which improves their confidence. This confidence boost influences their body image and self-esteem.

To verify the theory in the study, the majority of the participants have used fashion to improve their self-esteem and body image. Many participants express that dressing up helped them feel "confident", "brave", "beautiful", "alive", "comfortable", and "attractive", which as a result, impacted their body image and self-esteem. Many also expressed that the way society treated them when they dressed up assisted them with their self-perception and confidence; therefore, substantiating the data discussed above. Additionally, many explained that when they feel down and unconfident, they often dress up or shop for

new clothes. This way of dealing with confidence helped participants improve the way they feel about themselves, therefore, impacting their confidence, self-value and body image. Lastly, a few participants have not used fashion to improve their body image and self-esteem, however, some of these participants expressed that they have limited knowledge of fashion but finds the theory interesting and believes that it has the potential to work.

Summary, recommendations and directions for future research

The main objective of this study was to investigate if FT is a viable method to help improve body image amongst women with disabilities. This study aimed to investigate if fashion has a positive impact on women with disabilities, as well as, to explore the link between fashion as a form of therapy for women with disabilities. In this study, literature pertaining to disability and society, disability and body image, disability and fashion, and fashion and body image were reviewed.

From a theoretical point of view, the findings verified the reviewed literature on the effects of disability and society on body image, and the potential use of fashion as a form of therapy.

As a result of the findings, it was found that society's views of them impact individuals with disabilities. Therefore, fashion as a "social skin" has the potential to impact an individual's body image and confidence, as it enabled individuals to cover up and show society only what they are comfortable with showing. Additionally, it was found that individuals with disabilities are treated differently due to their disabilities, however, it was discovered that society reacts to how an individual dress, where they tend to focus more on the clothing than on the disability, as a result, impacting the way they treat and view individuals with disabilities. Furthermore, data showed that participants have been practising FT on themselves, meaning that there is an excellent potential for the professional use of FT amongst women with disabilities.

Lastly, although the sample group of the study is not an accurate representation of the population, the researcher is confident that the aim and objectives of the study have been achieved.

Recommendations and implications

Given the information contained in the body of literature on this topic, as well as the findings of the current study, the study formulates the following recommendations:

A proper understanding of the factors that affect the body image of individuals with disabilities is required by all members of society.

A deeper exploration of the design aspects of customised clothing for individuals with physical disabilities.

The establishment of learnership programmes to promote the role of fashion as a means of therapy among people with disabilities without any gender, race or age discrimination.

Given the context of the study, it is believed that the study will have a huge impact on the future orientation of fashion designers who focus on or get orders from individuals with a disability. Furthermore, the findings of the current study will help to raise the level of awareness of the fact that disabled people deserve better treatment and respect so that they can live with dignity.

Limitations and directions for future research

The current study only focused on women with disabilities and in a specific section of the country (Johannesburg). Future research to include men and if possible, cover a broader area of the country.

Secondly, future studies on the topic should investigate the methods and procedures of how fashion can be used as a form of therapy for individuals with disabilities.

And finally, future research should focus on how fashion can help women with disabilities to overcome the poor body image by means of differentiating between disabilities.

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Probing the efficacy of local economic development in South African Municipalities: A case of POLOKWANE local municipality

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Keywords

Efficacy, Employment Growth, Local Economic Development

Abstract

The government of South Africa adopted Local Economic Development (LED) as part of its development policy in its quest for an inclusive economic development and growth. LED is intended to create a conducive environment for an inclusive local economy. However, unemployment and poverty rates are high in local communities with some SMMEs struggling to secure funding. Although municipalities do not create jobs directly through LED, they should, however, ensure that strategies implemented talk to inclusive economic growth, particularly the mitigation of unemployment and poverty rates. The purpose of the paper is to investigate the efficacy of LED in South African municipalities. The paper aims to evaluate and analyse the impact of implementing LED in South Africa. The quantitative research approach was adopted, and questionnaires were utilised to collect primary data. The paper found that LED in South Africa produces desired results at a low rate in that only a small fraction of the participants agrees that the municipality facilitates funding for SMMEs; only a small fraction of the participants is of the view that LED units provide adequate infrastructure and create industries. Moreover, the paper found that only a fraction of the participants is able to create job opportunities. Consequently, the paper recommends that municipalities should facilitate SMMEs funding, provide adequate infrastructure, develop industries and design LED strategies that enhance job creation. The paper argues that effective measures of implementing LED will enhance LED impact rate and fast track the prospects of inclusive economic growth in South African municipalities.

Introduction

The implementation of Local Economic Development (LED) is governed by a legislative and policy framework in South Africa. Legislation and policy framework in South Africa mandate municipalities to create a conducive environment for growing local economy (Botes, 2002). The White Paper on Local Government (1998) introduced LED as an element of Integrated Development Plan (IDP) which is used to address developmental issues in the local government. The Municipal System Act 32 (2000) states that LED functions are legislated as part of IDP in the municipality.

The South African government through the LED, supports SMMEs and society as an attempt to create a conducive environment for employment growth as well as poverty alleviation. Although municipalities in South Africa have LED units, only small municipalities have two or three officials responsible for implementing LED. Only category A and some category B municipalities have a fully-fledged LED unit. The role of LED unit includes facilitator, stimulator and co-coordinator (Meyer & Venter, 2013). LED unit formulates strategies in line with its roles when implementing LED. Municipalities guarantee local economic empowerment and the dynamisation of local resources through LED (Kamara, Leonard & Haines, 2017). Municipalities must, therefore, develop inclusive local economy with high level of coordination between all spheres of government for LED to have a significant impact on employment growth and poverty alleviation (Kroukamp, 2006).

The central argument of this paper is that, although the government of South Africa uses LED as a tool to mitigate unemployment and poverty rate, the unemployment rate is still high with people still living in poverty conditions. South African provinces have high poverty rates, with the Limpopo province recording 67,5% of adults living in poverty followed by Eastern Cape with 67,3%, KwaZulu Natal with 60,7% and Northwest with 59,6% (Statistics South Africa (Stats SA), 2019). The unemployment rate in South Africa is 27,6 % and it has increased by 0,5% as compared to 2018 (Stats SA, 2019). The increase in

the unemployment rate has resulted in the decline of employed people in 2019 as compared to 2018 (Stats SA, 2019). It has been almost 27 years since the inception of LED and yet its impact is declining. In light of the foregoing assertions, this paper aims to probe the extent in which LED impact local economy in South African with reference to Polokwane Local Municipality.

Literature review

Nature and strategies of led in SOUTH AFRICAN municipalities

LED in South Africa has four facets, namely, coordinator, facilitator stimulator and entrepreneurship. LED is multidimensional in nature (Nel & Rogerson, 2002), is integrated with other programmes in the municipality and all the spheres of the government (Malefane, 2009). LED agencies support and promote LED initiatives in South African municipalities. The local government uses LED agencies to assist and promote LED initiatives. LED promotes entrepreneurship in local municipalities. Municipalities provide both financial and non-financial support (Binza, 2005). Municipalities can either operate an enterprise or join partnership with the private sector and other stakeholders (Koma, 2014). Municipal enterprises increase municipal revenue (Mbecke, 2015).

There are a number of LED strategies in South African municipalities, such strategies stem from the four facets of LED. The LED strategies include support and promotion of SMMEs, provision and maintenance of infrastructure, attraction and retention of SMMEs, promotion of exports and import substitution, human capital development and community economic development. The White Paper on National Strategy for the Development and Promotion of Small Business in South Africa mandates municipalities to mitigate unemployment through SMMEs and eradicate inequality through Black Economic Empowerment (Makhubo, 2015). There is a large number of SMMEs programmes in South Africa that assist SMMEs with access to finance; research and information, training and development, markets and linkages, (Meyer, 2014b). Provision of infrastructure promotes employment growth (Bond, 2002). The demand for infrastructure demand is high while the resources for provision of infrastructure are limited (Oyedele, 2012). Provision of infrastructure is a yardstick to benchmark good leadership and governance (Oyedele, 2012). SMMEs in local municipalities can be attracted and retained through the provision of adequate infrastructure and service (Slabbert, 2004). Municipalities can promote export and import substitution by supporting local businesses to produce and export competitive goods (Slabbert, 2004). Municipalities can also promote LED through the promotion of local markets (Reddy, Sing & Moodley, 2003).

Research methodology

This paper used the quantitative research design and administered questionnaires to collect primary data. Questionnaires produce straight-forward answers and promote confidentiality. The paper used the Polokwane Local Municipality as its study area and its target population was people and SMMEs that received services from the LED unit in Polokwane Local Municipality. The researcher circulated 370 questionnaires to the beneficiaries of LED (street vendors and SMMEs) in the Polokwane Local Municipality. The beneficiaries of LED receive services from the Local Development unit. The data collected through questionnaires was analysed using Microsoft Excel 2010 and was presented in statistical form.

Findings

The questionnaire distributed was structured based on the strategies and role of LED in South African municipalities. The findings are as follows:

Figure 1: LED unit facilitate funding for SMMEs

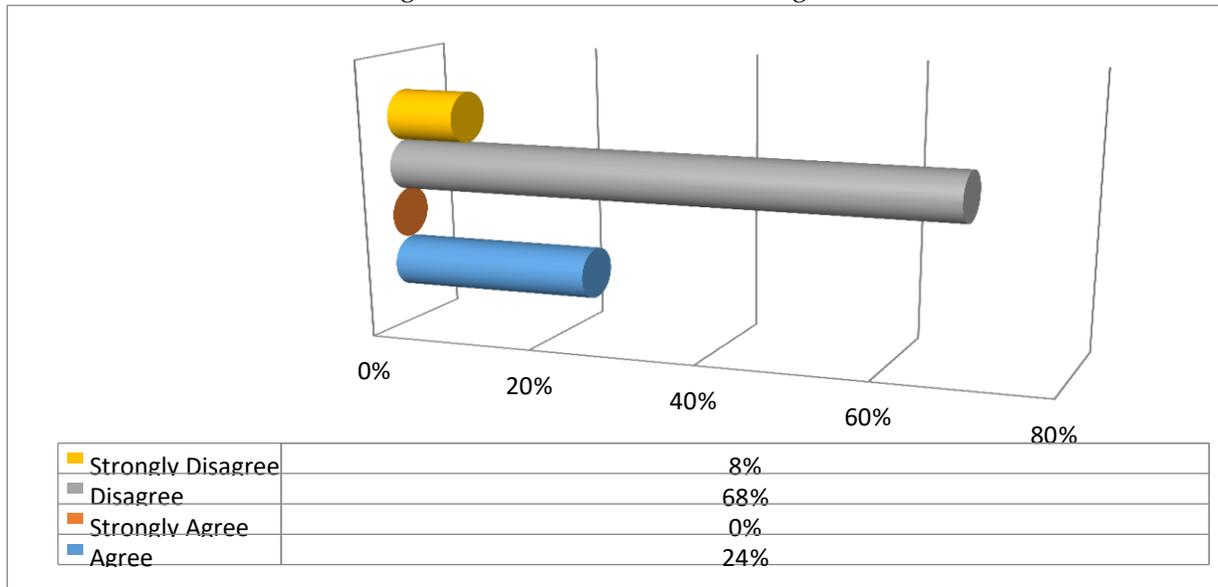


Figure 1 shows that 8% of participants strongly disagree, followed by 68% of participants that disagree. 0% of participants strongly agree and 24% of participants agree that LED unit facilitates funding for SMMEs. In total, the majority of participants (76%) are of the view that LED does not facilitate funding for SMMEs. A fraction of 24% (participants) holds different views. The finding backs the assertion that SMMEs funding is inaccessible in Limpopo Province (Ladzani & Netswera, 2009).

Figure 2: LED unit provide sufficient infrastructure

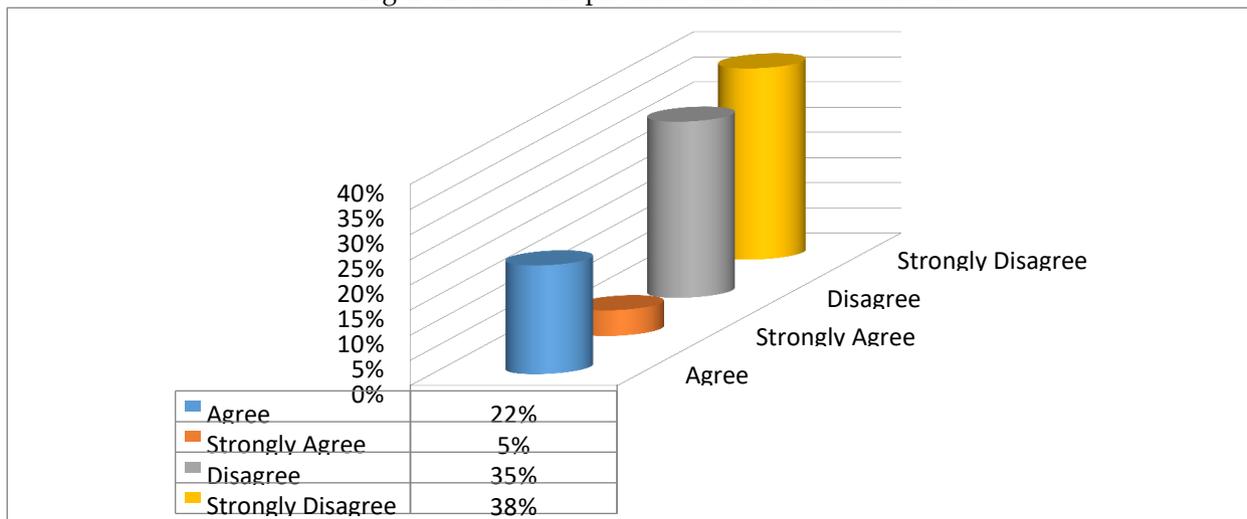


Figure 2 shows that 22% of participants agree, followed by 5% of participants who strongly agree. 35% of participants disagree and 38% of participants strongly disagree that the LED unit provides sufficient infrastructure. In total, the study shows that 73% of the participants are of the view that the LED unit provides insufficient infrastructure. Only 27% of the participants have a different perspective. The findings suggest that there is an inadequate provision of infrastructure for the implementation of LED. The finding supports the assertion that there are infrastructure backlogs in South Africa (Lombard, Behrens & Viruly, 2017).

Figure 3: LED unit creates industries in the municipality

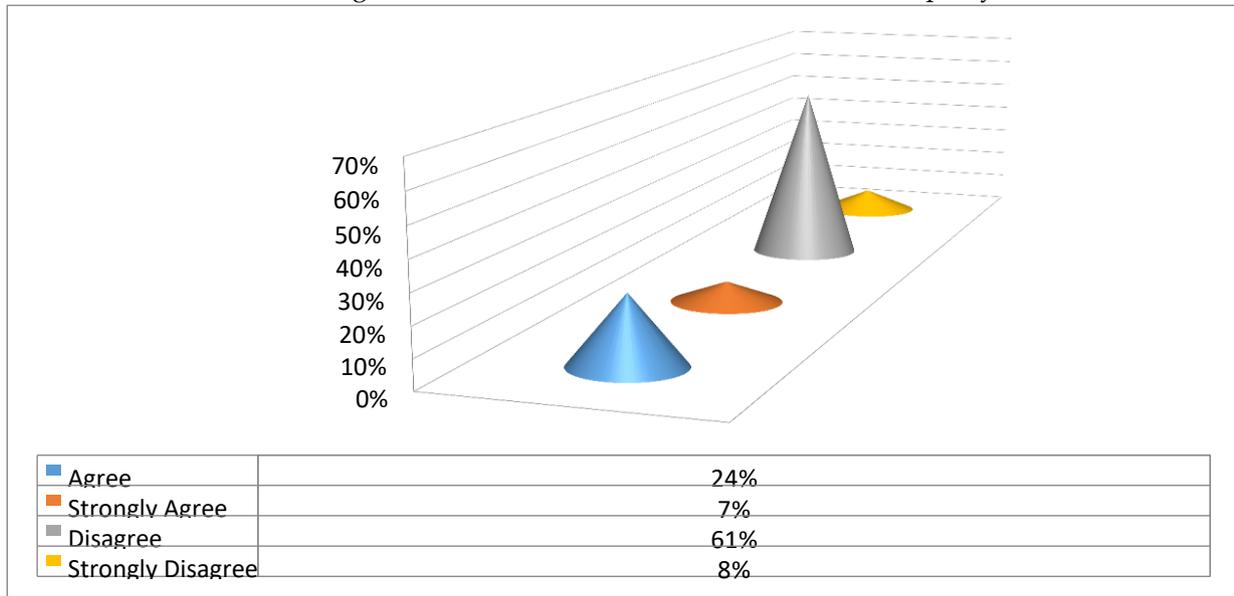


Figure 3 shows that 24% of the participants agree, followed by 7% participants who strongly agree. Majority of the participants disagree at 61% and 8% of participants strongly disagree that the LED unit creates industries in the municipality. The overall perception here is that 69% of the respondents are of the view that the LED unit is not able to create industries in the municipality. Only a fraction of 31% holds different views. The findings suggest that the Polokwane Local Municipality lacks the agenda of industrial development in its LED plans, thus, it progresses slowly in socio-economic transformation. The finding is supported by the assertion that manufacturing records only a fraction of 0.46% on the national GDP (City of Polokwane, 2020).

Figure 4: My business creates jobs and alleviate in the community

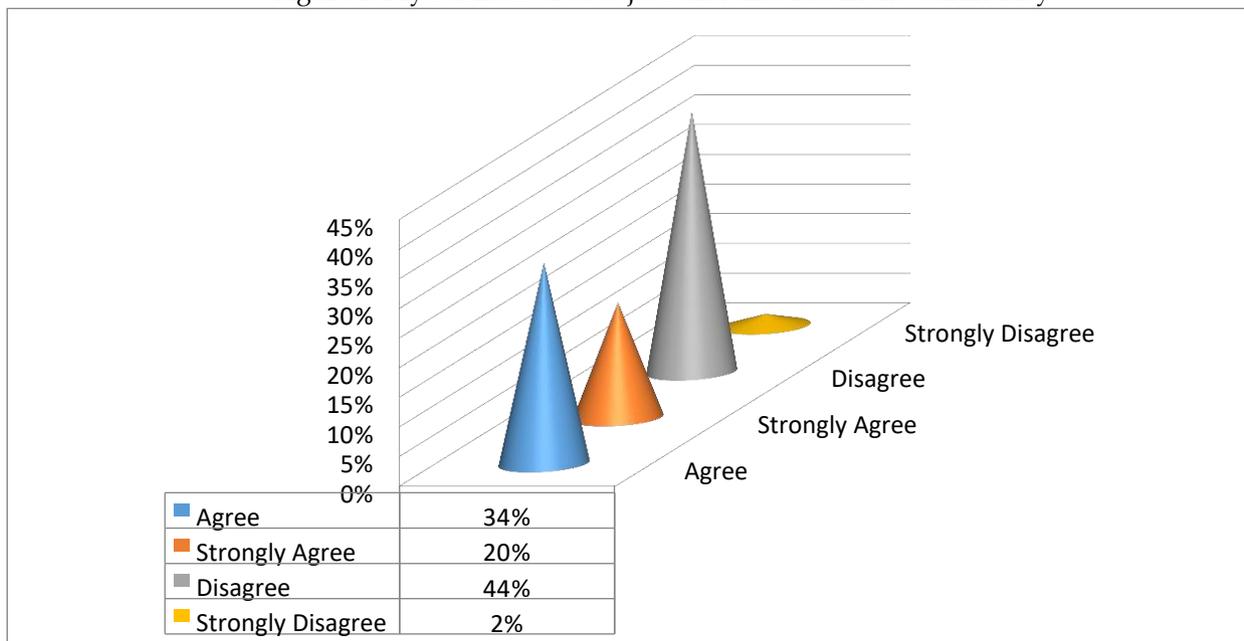


Figure 4 shows that 34% of the participants agree, followed by 20% of the participants who strongly agree. 44% of the participants disagree and 2% of the participants strongly disagree that their businesses create job opportunities. In total, the findings suggest that the majority of the participants (54%) are of the view that their project embodies LED objectives. A fraction of 46% holds a different perspective. The

findings suggest that only 54% of the participants are able to create job opportunities. The findings suggest that the rate of beneficiaries who are able to create job opportunities is not satisfactory given the year that LED was adopted in South Africa. The finding supports the statement that the impact of LED initiatives on job creation is declining (Masuku, Jili & Selepe, 2016).

Discussion and Conclusion

The purpose of the paper was to probe the efficacy of LED in South African municipalities with reference to the Polokwane Local Municipality in the Limpopo Province, South Africa. The paper discussed the nature, role and strategies of LED in South African municipalities. The paper gauged the extent in which LED is effective in South African municipalities by evaluating the impact of LED strategies in local economy. The findings reveal that the impact of LED is declining in South African municipalities. The findings also suggest that the strategies of LED in place are not effectively implemented because only a small fraction of the participants agree that indeed the municipality facilitates funding for SMMEs; only a small fraction of the participants are of the view that the LED unit provides adequate infrastructure and creates industries. Moreover, only a fraction of the participants is able to create job opportunities. Based on the empirical findings of the study, the following recommendations are made in order for the LED to have a high impact in local economy:

Facilitate funding for SMMEs

The White Paper on National Strategy for the Development and Promotion of Small Business mandates municipalities in South Africa to mitigate unemployment through SMMEs (Makhubo, 2015). There are programmes that assist SMMEs with access to finance in South Africa (Meyer, 2014). However, this paper's findings suggest that little is being done to assist SMMEs access financial assistance because 76% of the participants are of the view that the LED unit does not facilitate funding for SMMEs. SMMEs' access to financial assistance is limited in South Africa, only SMMEs with a credit history have access to financial assistance, particularly in the private sector. The paper, therefore, recommends that the LED unit must facilitate funding for SMMEs in the municipality. The facilitation of funding can include assistance in writing a fundable and feasible business plan in order for local SMMEs to be considered for financial assistance. The LED unit needs to provide local SMMEs with information on how to obtain funding. There has to be LED initiatives that talk to SMMEs funding.

Provide adequate infrastructure

Infrastructure is linked with the mitigation of unemployment and poverty (International Labour Organisation (ILO), 2021). Infrastructure promotes employment growth (Bond, 2002). Ma, Zhao, Li, and Zhu (2019) examined infrastructure investment of China's government and found that infrastructure investment has a positive effect on economic growth. This paper reveals that 73% of the participants are of the view that the LED unit does not provide adequate infrastructure. The paper recommends that the LED unit must provide adequate infrastructure and also manage the existing economic infrastructure effectively. Provision of infrastructure stimulates employment growth and attracts investment in the municipality. Rashid, Fazal, Javaid and Kausar (2021) evaluated the nexus of infrastructure investment and economic growth in South Asian countries and found that there is a direct relationship between infrastructure and economic growth. They further state that infrastructure projects enhance economic growth. SMMEs can be attracted and retained by providing adequate infrastructure (Slabbert, 2004). Provision of adequate infrastructure will create short- and long-term job opportunities through construction (ILO, 2021).

Development of industries

Development of industries can enforce import substitution and promote exports as well as injection of investment. Municipalities can promote export and import substitution by supporting local businesses to produce and export competitive goods (Slabbert, 2004). However, there are only a few manufacturing activities in the Polokwane Local Municipality, recording only 0.46% in the national GDP in South Africa (City of Polokwane, 2019). Supporting this assertion, the paper reveals that 69% of the participants are of the view that the LED unit does not create industries in the municipality. To remedy this, the paper recommends that the LED unit should establish manufacturing industries. Industries create job

opportunities, attract investment and promote import substitution as well as export. Industries will not only create job opportunities but will also attract investment and thus enhancing an inclusive economic development.

Designing LED strategies and initiatives that enhance job creation

The objectives of LED include mitigating unemployment and poverty in South Africa. However, South Africa records 27.6% unemployment rate (Stats SA, 2019). Provinces in South Africa have high poverty rates, with the Limpopo Province recording 67.5% of adults living in poverty followed by Eastern Cape with 67,3%, KwaZulu Natal with 60,7% and Northwest with 59,6% (Statistics South Africa (Stats SA), 2019). This study's findings reveal that 46% of LED beneficiaries are able to create job opportunities. The findings also suggest that LED is declining in South Africa. The impact of LED on job creation in the Polokwane Local Municipality is low. The strategies in place fail to achieve 100% job creation rate. The unemployment rate reflects the declining employment growth in South Africa despite the implementation of LED. The study therefore recommends that the LED unit must review LED initiatives and come up with strategies that will promote and enhance job creation. LED needs to look into the opportunities of LED and foster job creation. Each community has its unique resources that pose as opportunities of LED. The paper further recommends that the LED unit should come up with LED policies and strategies in line with opportunities of LED in the municipality.

The proposed recommendation can improve the efficacy of LED in South African municipalities and also evoke further research in improving efficacy of LED in South Africa. The proposed recommendation will promote the manifestation of high LED impact and contribute to the development of effective measures of implementing LED in South Africa. The paper submits that effective measures of implementing LED will enhance LED efficacy and fast track the notion of inclusive economic growth in South African municipalities. Municipalities should put more effort into facilitating funding for SMMEs, provision of adequate economic infrastructure, establishment of industries and overall mitigation of unemployment and poverty.

Limitation and direction for future research

This paper focused solely on the LED unit in the Polokwane Local Municipality out of 278 municipalities in South Africa. The applicability of paper's findings can be limited to the Polokwane Local Municipality given the diversity of each municipality in South Africa. There was no specific ratio when distributing questionnaires to the beneficiaries of the LED unit. Therefore, some LED beneficiaries could have participated more than the other categories of beneficiaries, which limited the accuracy of the findings. Future research could focus on the impact of infrastructure development on the Local Economic Development in South African Municipalities and challenges that hinder the effectiveness of LED in South African municipalities.

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Social business under the youth guarantee: Experience from the ground in Albania

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Keywords

Social business, social welfare, social responsibility, social protection and inclusion, social exclusion.

Abstract

The paper "Social Business under the Youth Guarantee: Experience from the ground in Albania" deals with the model of Social Business, piloted in Albania, as a sustainable mode to encourage youth entrepreneurship and employment. The Albanian social business model, named Youth Albanian Parcel Service (YAPS), which employs exclusively disadvantaged youth, is an innovative example of new thinking on tackling social exclusion and reducing poverty.

Case analysis of YAPS (Youth Albanian Parcel Service), the successful Social Business Model established almost 20 years ago thanks to a harmonized multidimensional effort of key stakeholders, is used to bring in evidence from the ground to promote the novel concept of using efficiency and in-built sustainability of free markets to generate social wealth.

The evidence provided here shows that a new approach is emerging vis-à-vis social policies. A shift in thinking on social policy foresees the emergence of a social capital approach to social exclusion. This approach involves the mobilization of the entire community-including business actors and civil society leaders-in tackling social exclusion and empowering disadvantaged members of society.

Therefore, it is the government, which should bear the burden of finding ways to harmonize economic development with social policies. Although social business is perceived as relevant by all stakeholders, people are looking for clear guidance from the government because they still miss initiative, financial resources and entrepreneurship education. Hence, the government may utilize economic levers to encourage the development of markets and competition; it may exercise its social role by implementing active labour market policies. Nevertheless, alongside them, the government must boost the education of people with the rules of democracy and the market, alike. These three roles are inextricably linked as they reflect the new political, social and economic order in which we live and secondly, because they determine a new relationship between citizen and the state in the post-communist era.

Introduction

The greatest challenge of Eastern and Central European countries is the social reform. The western literature has, at times, been tempted, and still may be, to consider income distribution in the former communist countries as an advantage of the system, assuming that equitable distribution was based on egalitarianism for all members of the society. Besides the Marxist theory, this viewpoint was also sustained by lack of realistic information on the former communist countries. Poverty in these countries did not exist only officially. As soon as transformation started in 1989, "transformation is not only changing political and economic institutions, but social stratification as well. The former collectivist welfare system is being rebuilt into a new one, placing far greater emphasis on market forces and individual responsibility and generating a new system of inequalities". (Delhey, p.5, 1998)

Post-socialist societies, newly emerging from totalitarianism and centralized economy, have been trying and continue to try to design frameworks to regulate the market economy and income distribution. Albania, too, since the fall of the communist system in 1991, has lived through a deep and radical transformation. After 45 years of isolation and oppression under the harshest communism of the region, it embarked on the road to building democracy through human rights protection and livelihood improvement in the context of a free market economy.

In the overall process of social development, guided by respect for human rights, a special place is taken by social policies designed not only to provide social and economic protection for the groups at risk,

but also to contribute to their re-integration in society. An essential part of these policies is aimed at providing economic and social protection for vulnerable groups to help them being reintegrated into social life.

A shift in thinking on social policy foresees the emergence of a social capital approach to social exclusion. This approach involves the mobilization of the entire community-including business actors and civil society leaders-in tackling social exclusion and empowering disadvantaged members of society.

The social business model, as developed in Albania, in the creation of the Youth Albanian Parcel Service (YAPS), which employs exclusively disadvantaged youth, is an innovative example of new thinking on tackling social exclusion and reducing poverty. It promotes the novel concept of using efficiency and in-built sustainability of free markets to generate social wealth. According to the father of Social Business, Yunus, this enterprise is of the second type, in which a group of excluded and disadvantaged people enjoy their efforts to establish and manage a business enterprise, mostly supported by a trust (Yunus, p.2, 2013).

This paper tackles the government's role on finding ways to harmonize economic development with social policies. While states struggle to take on the fiscal burden of supporting their most vulnerable citizens, societies such as Albania have paid witness to a dramatic growth in resources in a fledgling private sector. However, "economic activity often operates in a binary rather detached and isolated from both public sector and civil society. The brutal and predatory individualism encountered in many enterprises is in sharp conflict with the social interests of the state and society at large". (Zamagni, p.7, 1997)

The arguments advanced in the paper proceeds as follows: Section II briefly explains the methodology as well as the study limitations, while section III examines the evolution of the Social Protection and Inclusion policy in Albania and the institutional arrangements it has shaped. Section IV, which comprises the core theoretical component of the paper, argues the case that social business's experience may serve to formulate a new approach to social protection. Section V elaborates overall conclusions, addressing the new roles of the state in countries in transition.

Methodology and limitations of research

In fully alignment with the research goal, a descriptive methodological approach firmly based on data gathering from primary and secondary sources, was implemented. The method employed was a combination of systematic and meticulous desk review of all available documents (primary sources) and a set of interviews with YAPS key stakeholders (secondary sources). The research aims to carry out an assessment of YAPS, the first and the only Social Business Model in Albania, a good practice of disadvantaged youth empowerment to identify some lessons, which may support model replication and impact on economic growth, reduction of unemployment especially among youth and enhance greater social cohesion.

Face to face interviews with stakeholders include employees, managers, administrative board, and YAPS key customers. Semi-structured questionnaire, the research instrument served to collect qualitative information. However, the effectiveness of the research work is limited by the size of the study case as well as by the weight and role of Social Business vis-à-vis the overall income generated by private business, even from the small and medium enterprises. Hitherto, rather than an economic lever, YAPS is perceived as a social empowerment enterprise.

Social Protection and Inclusion in Albania

There has been a tendency, in various studies, to consider the social relationships of the socialist system as one of its strongest advantages. These countries, even the smaller ones, are included among modern societies when only physical and human capital is considered: the spread of literacy, urban population, modern communication, and information characterize most of these countries today. (Ymeraj, p.87, 2018). However, the critical issues of transition and frequent crises have shown how inaccurate and insufficient is the evidence of social capital in these countries.

What has been called 'the new human being of the Communist era' has been seriously deformed. It was totally impossible to recognize real social values, due to oppression by and fear of the regime. During transition, the state and the market remain influenced by past ideology and by the legacy of historical

development. The rapid polarization of society and the accumulation of wealth in a few hands have deepened the process of impoverishment, the middle class being more affected due to unemployment, very low incomes, emigration and disruption of social and community relations. Thus, the tendency to advance towards democracy has been confronted by the bleakness of the social basis. (Ymeraj, p.89, 2018).

Most analysis concerning countries' development refers to macroeconomics performance indicators, putting aside the concept of 'social inclusion'. It has been generally accepted that a strong economy creates a suitable environment for social progress, which applies in practice up to a point. However, when referring to post-Communist countries there are two different realities. While the first refers to the market economy promoting social welfare, post-Communist countries are applying the opposite: in their case, 'social mobilization' transforms, encouraging the market to develop, which in the end turns towards social welfare.

Since the beginning of the last century, Albania, a small country in the Balkans, with an area of 28,748 square kilometers and a population of 3,187,384 people (INSTAT, 2011) has been characterised by heterogeneous governance, marked by striking disregard for the stage of social development, which has affected the nature and the development of social capital. Despite economic growth of 4 to 5 percent in the last years, poverty and social exclusion remain critical, and the country is among the poorest in the region, with a poverty headcount ratio of 37% in 2020(<http://data.worldbank.org/country/albania>) at national poverty line.

Today, Albania's case exemplifies a traditional society making some sporadic efforts to become a modern one. This can be seen in both the market and the state sectors where large, impersonal bureaucratic organizations break the rule of law in their operations. (Rose, 1998). Moreover, informal networks substitute for formal organizations in politics, using bribery and corruption. Communities do not oppose such informal networks, being too weak to do so. Lack of social responsibility is both an output and an input, continuously generating a loss in social capital.

The negative economic legacy of the past and a difficult economic transition has caused economic instabilities coupled with deepening social and economic inequalities between the rural and urban parts. As a direct result of the cultural change, the entire population is exposed to a range of risks with bearing on the economic situation of the families and individuals, while opportunities to benefit from social service delivery remain limited. (UNICEF, NCSS & URI, 2011, p.34).

The Albanian Social Protection mechanism, established from scratch in 1992-1993, is designed to address the economic and social dimensions of exclusion, alike. However, guided mainly by the criteria of macroeconomic balance maintenance and the limited budget, the social protection mechanism while providing benefits fails in promoting people to be socially integrated. The policy of social protection, defined as the policy of 'alleviation of social inequalities' is not sufficient to promote the social development of Albanian society, while the recipients of social assistance are the most vulnerable to social exclusion. They suffer from multiple social disadvantages because they lack access to basic standards of housing, education, health, human relationships, and protection. Beyond straight forward economic poverty, the use of term social exclusion recognizes that the human rights of the individuals can be further threatened by the forced passivity of welfare, the inability to fulfil their basic potential and to build the kind of human relationships that lead to active citizenship. The traditional approach of social protection is no longer relevant for Albania. The social policy must be re-shaped, while "Social Business" may serve as a "start-up model" to encourage disadvantaged people to look for a change.

Social Business, a new approach vis-à-vis the traditional social protection policy

Social enterprises are businesses with social objectives whose profits are channeled back to the community to serve social goals. They are market driven and value led. Social enterprises tackle a wide range of social and environmental issues and operate in several domains of the economy.

The evolution of social enterprises was triggered by the blurring of sector boundaries between private and public. The recent unparalleled economic expansion: globalization and the spur of new technologies fundamentally questioned the reigning separation of the private and public sector. Multinational corporations faced with growing grassroots activism calling for corporate responsibility have gradually changed their perspectives on the sole profit-making role prescribed to corporations. At the same time, international donors and governments believed that the social sector fell far short of remedying social ills.

Little change has been noted in the welfare of societies thus consequent phasing out and donor fatigue left not-for-profits to struggle financially. Donors and governments have been repeatedly asking for sustainability as a pivot point for giving support to mushrooming NGOs.

The buzz word has become a financial term called double bottom line which required all entities to simultaneously meet financial and social goals. The new models engulf a corporation which is socially responsible and an NGO which is not grant dependent. On one hand, corporations with the well-entrenched slogan 'good business, good neighbor' reached out to local communities by supporting varying social initiatives. On the other, NGOs sought avenues to serve their social missions by developing self-sustaining businesses in the market. The new hybrids successfully blended for-profit and not-for-profit elements in their ventures.

Social enterprises have been sprouting in a variety of countries in different economic and business environment. This new field amalgamating business acumen and social sensitivity aims to meet the challenges of a changing world with converging boundaries between business and public. The social business model gives us great opportunities to boost both the economy and the society simultaneously building on business success and harnessing social well-being.

Social entrepreneurship can take many forms and serve many objectives. The oldest breed is workforce development initiated by governments and microfinance projects supported by international organizations. The more recent model represents not-for-profit organizations transforming into business ventures to achieve long-term social impact. The newest social business venture conceptualized by a unique collaboration among business, private and social actors in Albania has set up a business - without building on a previously existing not-for-profit - to meet a social objective.

Youth Entrepreneurship has been a response to persistently high unemployment among youth in industrialized countries. The restructuring of labor allocation, shift to small-scale production and service sector from concentrated industrial production, and relocations of companies to countries with cheap labor led to unemployment. Even those young people who could find employment were faced with less favorable conditions, as often they were offered short-term contracts without benefits.

Youth unemployment did not only plague the industrialized countries but has been identified as one of the key development issues in Southeast Europe (SEE) following the transition periods. In SEE unemployment among youth especially marginalized social groups and women is higher than that of adults. Eroding social safety net and limited opportunities coupled by traditional nepotism in public sector jobs led to devastating consequences. Brain drains and massive migration caused tremendous loss in human capital. Long-term youth unemployment is likely to cause social problems. It increases the chance that young people get involved in illegal activities; engage in risky behavior such as drug use, violence and prostitution.

Governments encouraged the idea of self-employment and the development of entrepreneurial skills in order to reduce the risk of marginalization of young unemployed. Curricula at schools have been extended to include basic training and skills in self-employment, business administration, economics etc. Favorable environment for youth entrepreneurship was created by mentor support, access to finance and workspace, and start-up loans. Governments offered incentives for companies that employ youth.

Several attempts have been also taken by the private sector, international and non-governmental organizations. There have been initiatives by the private sector to organize on-site visits, career days and even finance the school fees of talented youth. International and non-governmental organizations adopted the idea of social entrepreneurship to especially target youth of low socio-economic background and at-risk youth.

In 2001, a coalition of private and public sector actors, under the leadership of UNICEF, developed a social business approach to reducing social exclusion. The Youth Albanian Parcel Service (YAPS) is a classic social business in the sense that it uses wealth creation to achieve social goals. Funds and expertise have been generated by the private sector to develop a courier service that exclusively recruits socially excluded young people.

The business component of the venture envisaged quality domestic mail and parcel delivery services delivered at competitive rates. The social component envisaged recruitment and training of young victims of socially exclusion, as those described in the previous section plus migrant youth that represent

additional strata of social exclusion within Albania. Profits generated by the young people would be ploughed back into expanding and developing social business opportunities for a wider band of youth. This virtuous circle would enable the young people, not only to turn their own lives around, but at the same time to become agents of social cohesion. (UNICEF, p.12, 2001).

UNICEF managed to raise over US\$300,000 in funds with the primary donor being Banca Intesa, a leading commercial bank in Italy and in Albania. A KPMG market survey of 114 leading banks, firms and institutions in Tirana revealed extensive demand for courier services. Indeed no domestic courier services were available in 2001. Simultaneous to the market survey, an independent consultant was hired to conduct a detailed feasibility study and business plan. Within the business plan, a cash flow forecast projected post tax profits moving from US\$17,005 per annum to US\$27,716 per annum within the first three years of trade. The cash flowforecast was based upon an examination of both market demand and the capacity that the contribution from Banca Intesa would enable YAPS to have.

These calculations foresaw the delivery of parcels growing from 69,873 deliveries per annum over the first three years of trade to 232,910.(UNICEF, p.16, 2001). A cash flow forecast is not a scientific announcement of a given outcome, but rather a set of navigational indicators that can inform the strategic direction of a venture. But using the thorough research that had been carried out by both surveys, UNICEF and the founders concluded that they could invest the money in the establishment of YAPS in Albania with a high probability that even a considerably more modest success than predicted would have the desired impact of employing a significant number of socially excluded youth.

A total of US\$308,679 was directly invested in the establishment of YAPS. This covered the cost of recruitment, training, construction of a purpose-built premises (1/3 of total cost), procurement of equipment,market research, marketing, initial wages and management services. The availability of a relatively large sum of funding enabled a smooth and rapid set up process together with the capacity to provide high quality services from the outset.

After 20 years, YAPS is still in the market, with a complex package of services in addition to courier ones, like electrical supply repairs and maintenance, cleaning services, IT maintenance and other required services. During the last 10 years, the number of employees has almost tripled, from 70 to 180. During the last decade, from 2010 to 2020, the volume of services provided by YAPS has increased by 8 times (from 15.000 services per year in 2010 to 120.000 services in 2020), whilst the number of clients only for the cleaning and maintenance services has increased by 3,5 times (from 25 clients in 2010 in 94 clients in 2020). Net profits have also increased by three times, from US\$250,000 in 2010 to US\$800,000 in 2020.¹

What does the YAPS experience show? YAPS has definitely made a real difference in the lives of the individual young workers involved. They are new persons with new lives and with futures that they or others thought they would never have. The initial impact of YAPS therefore is to break the cycle of passivity and hopelessness in the lives of a given number of individuals and provide an hitherto unavailable opportunity to shift from passive to active members of society.

While the dramatic results in young people's lives are widely recognized, there is the realization that YAPS and social business is not the panacea to the immense complex of social needs of young people. It is seen as a valuable piece of a broader web of social protection measures, and not a stand-alone solution. It is a high-investment venture but with significant returns on investment.

YAPS is a clear message that a new approach to social protection is needed, different from the traditional one. The new Social Protection mechanism, while helps the poorest to actively come out of poverty, promotes them as well to be socially included. Therefore, the transformation of the current system into a 'social protection, integration and inclusion mechanism' has to come to the forefront of the agenda.

YAPS experience demonstrates also that a new and vital partnership model is required, in which despite the nature and institutional organization, stakeholders are united by the mission and common objective of supporting people to alleviate shocks of transition through the provision of holistic and comprehensive social services. It proved that the effective collaboration between foreign and domestic

¹ Interview with Mr. Arben Shamia, YAPS General Director, February 2020.

actors and partners, and between the partners and beneficiaries, has been the fundamental factor of success so far.

As a matter of fact, this experience helped to understand that provision of social wellbeing is neither a product nor a duty of one institution, therefore, there cannot be “one” provider. It is a product of many “actors” – governmental and nongovernmental, of the central and local government, public and non-public, which can and should take their social responsibilities for the sake of society.

Conclusions: the new roles of the state

After the failure of the communist system, the question of the state’s role in Eastern European countries, including Albania, is debatable and controversial. Some politicians argue that the economic role of the state must be separated from its political role, contending that the state in the past failed because of its inability to separate economic and political spheres. But as long as political power stems from economic power, it is not possible to separate economics from politics. They are interlinked with each other. “Economics will remain profoundly political, not only because this is the case in every politico-economic system, but because in the specific context of East Central Europe the task of economic transformation presents unprecedented political challenges” (Batt, p.5,1991).

Whereas political transformation was desirable for the people, economic and social transformation was painful. The implementation of transition reforms required strict macroeconomic stabilization policies implemented alongside privatization, liberalization of prices and trade, fiscal and monetary policy, banking reform and opening of the economy. The social pain which accompanied the implementation of these policies discouraged people, who had other expectations. “For a considerable part of the society the understanding and accepting of the rules of market economy finishes at the level of expectations of quick success and reaching a Western standard of consumption”. (Barr, p.32, 1991).

In such a challenging development context, the government should have strategically and courageously intervened to create, to regulate and improve. In poor countries like Albania, characterized by weak social protection mechanisms, Social Business is an effective alternative to empower disadvantaged people and create jobs.

The government can create an enabling environment for social business through the provision of tax concessions and incentives like VAT on services or goods, exemption from small business tax, income tax of employees or tax concessions for both donors/businesses and recipients of cash and services provided in support of social business. Meanwhile governments benefit from a reducing burden on basic welfare payments and the more acute costs of the fallout from social exclusion of at-risk youth eg, imprisonment, conflict, violence, post-drug rehabilitation etc. The difference between social business and business, from a government perspective, therefore, is that social business is an instrument for redistribution of public funds and social investments with an improved outcome for its most vulnerable citizens.

Another role of the state could be in the provision of education/vocational training in support of initial employment of disadvantaged youth. A long-range goal of ventures such as YAPS may also be enabling employees to eventually attend university and proceed on their own career path while Social Business recruits’ new generations of disadvantaged youth for employment. The government could be supportive of this process and at the same time benefit from the impact of positive role models of university educated care leavers or disabled youth upon younger generations of similarly disadvantaged youth. The state may also be able to provide cash assistance from social fund toward social business.

A key step to achieving all of the above would be the development of a specific law on social business which would outline the package of concessions and support available to new social business ventures. Such law may promote the incentives of private sector actors in social actions, as well. This is beyond the remit of this paper. However, the experience of social business here in Albania, has been that business leaders are much more interested in getting to engage in social actions when their skills and expertise are utilised, and they can see tangible social and business outcomes. Thus, social business provides the opportunity to shift from the traditional role of the businessman passively providing funds to a hospital wing or an orphanage to them coming on board at exactly the point where they are able to have the strongest impact, creating wealth.

Social business provides NGOs with the opportunity to access additional resources to achieve their goals of social action and empowerment. Equally their experiences are crucial in developing methodologies for reaching out to and eventually integrating disadvantaged youth.

The government is a natural stakeholder in social business. It is responsible for the success of the transition from a communist socio-economic structure to a liberal democracy. Most importantly, through policies and institutions, it shapes the shared values and ethics of its constituency as they adapt to a changing world.

The transition reforms in Central and Eastern European countries have shown that rapid progress from a centralised to a liberal model cannot be realised without strong intervention by the state. The government is the link between privatisation, foreign investments, financial policies, and the administration that puts them into practice. The role of government is not only to focus on the legal framework, but also to apply this framework through the decentralisation of services and the consolidation of individual responsibilities. Otherwise, the establishment of a legal system has no useful function and the three roles of the state - economic, social, and developmental - cannot be implemented.

However, nowadays new important actors are willing to undertake responsibilities. State is no longer the only "duty bearer" as regard social protection. Every day, citizens and civil society as well become more accountable vis-à-vis "rights holders". Nevertheless, they cannot substitute the role of the state, but they complement it if the government exercises its power to align, leverage and harmonize stakeholders' contributions. YAPS experience clearly demonstrates that anything is possible if people harmonize their efforts to achieve results.

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The construction of occupational professionalism among business rescue practitioners supplying professional bodies.

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Key word

business, construction, framework, practitioner, professionalism, rescue

Abstract

Purpose of the research: To identify and explore the construction of professionalism in a multiple professional bodies (MPB) landscape in South Africa (SA) and demonstrate how such construction can be used to enhance professional accreditation regime.

Design of research and methodology: The study used a qualitative research design. This required five consecutive steps of (a) interviewing member services managers at four professional bodies (PBs); (b) systematic content analysis of codes of professional conduct (CPCs) and policy statements to identify constituent professionalism notions; (c) a systematic search of the literature to identify notions of professionalism mentioned in definitions and explanations of the construct; and (d) analysis of notions of professionalism using the constant comparison procedure to reveal key themes. The results in (a) through to (d) were used to advance a programmatic framework to construct professionalism in an MPB landscape.

Research results: The construction of professionalism is linked to services rendered and competencies in the MPB landscape. The existing licensing regime encapsulates the increased importance of the MPB landscape, leading to a shift away from a conventional conceptualisation of professionalism in a single professional body (PB) setting. A total of 90 separate notions of professionalism were identified in the 192 scholarly papers included in our study. The identified theme within BRP professionalism (emphasising relational aspects) point to practitioner dealings with (i) clients (business rescue candidates); (ii) government and others; (iii) the PB; and (iv) oneself to gain the essence of occupation. There is fragmentation between the constructed conceptualisations of professionalism among PBs, leading to an incoherent and inconsistent expert accreditation regime.

Practical implications and value: The findings of the study are useful in the integration of practitioner learning and development practices in the PBs whose members serve as BRPs. BRP is a regulated occupation and requires a distinct professional accreditation framework (PAF) to integrate multidimensional professionalism in the MPB landscape. Approaches to enhance accreditation should consider delineating BRP services and task from interview results from a community of practitioners. The PAF will structure the construction, investigation, and documentation of occupational professionalism required by the licensing authorities. It will also help delineate BRP as a discipline worth of academic and professional pursuits with known competencies.

Introduction

Professionalism is an important learning and development outcome in professional certification (Macheridis & Paulsson, 2019). Evans (2011) argues that professional standards lead to a professionalism notion that focuses predominantly on practitioner behaviour instead of practitioner attitudes and intellectual capacity development. Sandberg and Pinnington (2009) equate professional competence with professionalism. Van De Camp, Vernooij-Dassen, Grol and Bottema (2004: 696) contend that professionalism is a multidimensional construct. There is no agreement on how to define professionalism (Arnold, 2002). Evetts (2003) analyses professionalism from a normative value system and ideological power occupation to motivate and facilitate occupation improvement. Evetts (2000: 397) considers professionalism an evolved practice construct from occupations that are based on technical and articulation knowledge. The Companies and Intellectual Property Commission (CIPC, 2020) issued

continuing professional development (CPD) to enhance professionalism among practitioners from multiple professional bodies (MPBs).

Background

The constitution of the business rescue practitioner (BRP) occupation in South Africa (SA) occurred with the promulgation of the Companies Act (Act No. 71 of 2008, from now on the "Act"). The legal provisions in the Act took effect on 1 May 2011 and allowed practitioners from MPBs (Table 1) to provide turnaround services. Questions worth asking is: How is professionalism constructed in the MPB landscape like corporate turnaround management (BR)? What dimensions of professionalism would apply to the BRP or the BRP occupation in SA? These questions must be answered for the BRP occupation to improve towards intended practice goals.

The understanding of the construction of professionalism among the BRP-supplying professional bodies (PBs) is vital in the learning and development of BRPs. The demand for BRP services (Table 1) prompted a rethink of how BR needs can be met by professionals holding membership with PBs recognised by the South African Qualifications Authority (SAQA) and the CIPC. Table 1 shows the number of BRs since 2011. The volume of work on corporate turnaround has been growing. Table 2 shows a summary of BRPs registered from different PBs in compliance with the Act's requirements. As of 30 September 2020, the four PBs contribute 81% of the registered BRPs. These PBs are the South African Institute of Chartered Accountants (SAICA) (27%), the South African Restructuring and Insolvency Practitioners Association (SARIPA) (22%), the Law Society (20%) and the Turnaround Management Association of South Africa (BRA-SA) (12%). Table 2 further shows that 42% of the BRPs on the CIPC register were not linked to any of the listed PBs. In terms of the regulations, the unclassified BRPs must apply through the recognised PBs. This move supports the use of professionals in BR work, and by extension, professionalism should have a shared constructed meaning.

The members of the listed PBs did not train in BRP practices, and the construction of professionalism is bound to be different. Pretorius (2014) contend that BRP is an occupation that emanated from the promulgation of the Act. It was hoped that the emergence of a BRP profession would result from the implementation of the Act.

Table 1: Number of BRP companies and volume of work

| Month | Years | | | | | | | Total | Mean |
|----------------------------|------------|------------|------------|------------|------------|------------|------------|-------------|------|
| | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | | |
| April | 0 | 30 | 39 | 24 | 42 | 25 | 16 | 176 | 25 |
| May | 5 | 45 | 50 | 39 | 33 | 40 | 27 | 239 | 34 |
| June | 28 | 26 | 37 | 34 | 21 | 36 | 43 | 225 | 32 |
| July | 25 | 23 | 47 | 43 | 67 | 40 | 23 | 268 | 38 |
| August | 38 | 59 | 49 | 66 | 56 | 45 | 33 | 346 | 50 |
| September | 81 | 55 | 26 | 42 | 34 | 29 | 41 | 308 | 44 |
| October | 27 | 47 | 45 | 44 | 57 | 34 | 33 | 287 | 41 |
| November | 42 | 56 | 28 | 34 | 55 | 32 | 47 | 294 | 42 |
| December | 59 | 18 | 14 | 25 | 21 | 22 | 18 | 177 | 25 |
| January | 67 | 14 | 35 | 31 | 22 | 23 | 25 | 217 | 31 |
| February | 43 | 44 | 31 | 24 | 47 | 28 | 32 | 249 | 35 |
| March | 28 | 50 | 32 | 49 | 38 | 31 | 30 | 258 | 37 |
| Total | 443 | 467 | 433 | 455 | 493 | 385 | 368 | 3 044 | 435 |
| Invalid filings | (61) | (27) | (24) | (42) | (12) | (6) | (5) | (177) | (25) |
| BR ended | <u>320</u> | <u>298</u> | <u>269</u> | <u>250</u> | <u>288</u> | <u>184</u> | <u>82</u> | <u>1691</u> | 242 |
| Active as of 31 March 2018 | <u>62</u> | <u>142</u> | <u>140</u> | <u>163</u> | <u>193</u> | <u>195</u> | <u>281</u> | <u>1176</u> | |

Source: Researchers' synthesis of the CIPC data on business rescue firms.

The fundamental idea is that competencies must be taught to achieve professionalism. Montazemi, Siam and Esfahanipour (2008) emphasise specialist knowledge and skills as the critical drivers of professionalism. Teaching professionalism has been noted to be less formal, and that professionalism is a learned behaviour (Henderson, Jackson, Simmons & Edwards, 2012; Wagner, 2012). Learning professionalism may be complicated within the MPB setting, and the advocacy for esoteric skills and knowledge ignores professionalism as a practitioner's essence of being in an occupation.

Table 2: Categories of licensed BRP as of 30 September 2020

| Professional body | Total | Licence category | | |
|--|-------------|------------------|--------------|---------------|
| | | Junior | Senior | Experienced |
| Association of Chartered and Certified Accountants (ACCA) | 2 | 2 | | |
| The Chartered Institute of Management Accountants (CIMA) | 6 | 3 | | 3 |
| Cape Law Society (CLS) | 7 | 5 | | 2 |
| The Institute of Accountants in Commerce (IAC) | 6 | 4 | 0 | 2 |
| The Institute of Business Advisors Southern Africa (IBASA) | 7 | 2 | 3 | 2 |
| The KwaZulu-Natal Law Society (KZNLS) | 5 | 3 | 1 | 1 |
| The Law Society of the Northern Provinces (LSFS) | 3 | 3 | | |
| The Law Society of the Northern Cape (LSNP) | 20 | 12 | 4 | 4 |
| The South African Institute for Business Accountants (SAIBA) | 20 | 16 | 1 | 3 |
| SAICA | 98 | 35 | 36 | 27 |
| The Southern African Institute of Professional Accountants (SAIPA) | 15 | 11 | 2 | 2 |
| The Legal Practice Council of South Africa | 50 | 31 | 11 | 8 |
| SARIPA | 77 | 53 | 16 | 8 |
| BRA-SA | 43 | 18 | 8 | 17 |
| Total classified licensees as of 30 September 2020 | <u>359</u> | <u>198</u> | <u>82</u> | <u>79</u> |
| Total classified licensees as of 30 September 2019 | <u>199</u> | <u>99</u> | <u>52</u> | <u>48</u> |
| Practitioners not linked to a PB as of 30 September 2019 | <u>264</u> | <u>148</u> | <u>52</u> | <u>69</u> |
| Percentage (30 September 2020) | <u>100%</u> | <u>55,15%</u> | <u>22,8%</u> | <u>22,05%</u> |

Source: A research synthesis of CIPC BRP registration list as of 30 September 2020.

Studies before 2004 show conflicting definitions of professionalism. Some authors view professionalism as a component of ethics (Shafer, 2002: 272). The making of professionalism as a component of ethics presupposes that teaching ethics results in training practitioners on professionalism. Other authorities link humility and honesty to professionalism so that professionalism is absent whenever honesty and humility are non-existent (Bartels, Pruy, De Jong & Joustra, 2007; Henning, Ram, Malpas, Sisley, Thompson & Hawken, 2014; Howard, 2007). Fatemi, Hasseldine, and Hite (2020) argue that practitioners act with professionalism when they adhere to a code of professional conduct (CPC), and therefore, professionalism is not a principle of ethics. Van De Camp et al. (2004) demonstrate that professionalism has three dimensions, namely interpersonal (working towards proper and fit conduct with clients and colleagues), public (fulfilling the demands placed on the profession), and intrapersonal (being able to meet the demands of the profession).

Evans (2011: 855) contends that professionalism has behavioural (what practitioners perform at work and speaks to the work processes, procedures, work outputs, and competence), attitudinal (attitudes that considers practitioner perception, assessment, motivation to work), and intellectual (practitioners' knowledge structure, understanding, and application) dimensions. Once again, differences in the construction of professionalism seem to be evident. We agree with the perspective that professionalism is about a practitioner's essence of being at a workplace. A practitioner's essence of being perspective emphasises what practitioners do in their working life. In the working life of an expert, we expect experts to develop relationships, deploy improved tools and technology, and create knowledge structures such as required services, codes governing practice behaviour, and the quality of service or work output.

Problem statement

Text Box 1 highlights complaints to the CIPC and shows unacceptable acts perpetrated by BRPs. The CIPC has since worked with PBs to come up with the business rescue CPD policy (CIPC, 2020). The questions worth asking are: How has professionalism been constructed among BRP-supplying PBs? Does the constitution of the business rescue CPD policy lead to shared professionalism among practitioners from different PBs? There is no consensus on the meaning of professionalism. Consequently, the construction of professionalism must be understood among the BRP-supplying PBs so that the public can understand what professionalism refers to within the BRP occupation. The lack of consensus on professionalism is bound to affect the criteria of professional standards that can direct the BRPs' work and mitigate against unprofessional acts (Text Box 1).

The current exploratory study sought to take the first step to document constructed professionalism and build mechanisms to direct the BRP professional accreditation regime. The unprofessional acts cited in Text Box 1 read together with the business rescue CPD policy point out that professionalism is lived in every occupation as a practitioner's essence of being in a work context. Practitioners develop professionalism and the same cannot be enforced as a performance contract from a regulatory body (Evans, 2011)

Text Box 1: Signs of unprofessional acts from engaged BRPs
Complained raised with the regulator (CIPC) were concerning:
 abuse of power, position, control.
 practitioners were accepting irrecoverable corporate assignments.
 unjustifiable high fees charged.
 inadequate communication with business rescue companies.
 non-compliance with the timelines of the Companies Act (Act No 71 of 2008).
 failure to operate within the terms of the approved business rescue plan.
 business rescue costs increase the cost of liquidation.
 inclination towards liquidation option instead of business rescue as liquidation is well understood by the current practitioners.

Actual complaints received by the regulator were regarding:
 dishonest in all business rescue matters (fees and claims) with no regard to creditors.
 undisclosed contents of the business rescue file.
 biased because of conflict of interest between being the attorney of record and the BRP on the relevant assignment.
 fraudulently signed documents as clients never even see the affidavits/paperwork that their signatures are found on.
 refusal to take calls from clients.
 unqualified administration staff in BRP offices used to discuss matters with clients.

Source: Adapted from the CIPC (2013). Do all answers rest in the skill set of the business rescue practitioner?

Research questions

The study explores the following questions:

1. How do PBs providing BRPs construct professionalism, and to what extent can the existing construction of professionalism facilitate the development of a professional accreditation regime?
2. How can constructed professionalism from existing literature contribute to the practical investigation and development of a BRP accreditation framework?

Research design

Yin (2017) contends that research purpose and questions are the starting points to formulate a research design. The study explores the construction of professionalism within the work of BRPs. This exploration precedes the development of a professional accreditation framework (including a certification) that supports the intents of the Act. Firstly, we interviewed the dominant PBs' representatives to document the professionalism theme from the dominant PBs' perspective. This approach is premised on the institutionalist perspective on professional work and existential ontology (Muzio, Brock, & Suddaby, 2013; Sandberg & Pinnington, 2009). Interviews with the representatives of PBs were complemented by content analysis of the four CPCs from the four PBs. The CIPC's business

rescue continuing professional development (CPD) policy requires accredited PBs to meet out sanctions against their members for misconduct. The disciplinary regime for a PB is contained in the enabling law or CPC.

The qualitative content analysis of the four CPCs was followed by a content analysis of the literature on professionalism. We analysed scholarly pieces of literature to gauge the extent to which the PBs' construction of professionalism are supported by international literature and to respond to the second research question. Table 3 summarises the research design and is accompanied by a detailed description of the design elements.

In attempting to answer the research questions, we were conscious of our own beliefs, philosophical inclinations, and operational values. These assumptions influenced how the research was conducted. An ontological stance embraces the researchers' view on the nature and spirit of the investigative activity and reality. The researchers investigated a socially constructed phenomenon given the MPB landscape. The MPB setting creates a reality that is dependent on the actors in the corporate turnaround. Therefore, we assumed that the practitioners supplying PB contribute to the notions of professionalism through their participation in the CIPC's business rescue liaison committee. We sought to establish recurring mentions of professionalism themes. Our research curiosity was to explore the construction of professionalism as the basis to ground the development of a professional accreditation framework. The business rescue CPD policy shows the importance of professional competence and requires accredited PBs to organise and monitor CPD for their members.

Researchers' theory of knowledge (epistemology) describes how one can discover underlying principles about social phenomena and demonstrate knowledge (Wahyuni, 2012: 69). Notions of professionalism are bound to have subjective meanings, and we focused on the details of the situation as we attempted to understand the reality behind the details. The details are with representatives of the PBs and other official documents addressing professional standards matters. Our personal experience with a business failure and the training of experts ignited our interest in the phenomenon investigated. As academics and experienced turnaround consultants, we prefer realistic regulatory regime directing practices. We structured data-gathering methods to moderate against possible biases arising from our background.

Research methods

The research design followed in this current work is summarised in Table 3. The nature of the research question dictates the use of qualitative research procedures. Qualitative research procedures are apt to unearth and develop insights into the phenomenon under study, primarily when the phenomenon is poorly understood (Kolsaker, 2008: 515; Yin, 2017). Professionalism is poorly defined for meaningful application to the BRP occupation. Therefore, qualitative methods were deemed suitable to explore the construction of professionalism. The study had four components to it. The first component was based on interviews with member services managers/CEOs of the four PBs supplying 81% of registered BRPs. The interviews were guided by an interview instrument that was shared with the informants before the day of the virtual meeting. The representatives of the PBs completed the data collection instruments to gauge the scope of the study. One of the researchers scheduled a virtual session, which lasted 2 hours, to discuss the informants' responses in the instrument. The instrument covered aspects such as the existence of a CPC, support provided to the members serving as BRPs, a professional development regime, a disciplinary and sanctions regime, the scope of professional services rendered, higher education courses offered to qualifying candidates, and the definition of professional responsibilities. The responses captured from the informants are summarised in Table 4.

Table 3: Research design

| <i>Component</i> | <i>Description</i> |
|--|--|
| Problem | There exists conflicting and incoherent application of professionalism among BRP-supplying PBs. |
| Research question | How should professionalism be constructed for BRPs in a MPB setting? |
| Context | Regulated BRP regime emerged in the SA setting after the promulgation of the Companies Act (Act No. 71 of 2008). TMPs drawn from multiple PBs can apply for practitioner licences. The CIPC has noted unprofessional acts perpetrated by the TMPs. The socialisation of BRPs from different PBs is not the same, and, therefore, the construction and application of professionalism can vary. |
| Propositions* | Increased interest in professionalism has not been accompanied by a coherent construction and application of professionalism. Service standards and tasks dictate the notions of professionalism and can be used to manage fluidity of the construct in a MPB setting. |
| Phenomenon investigated | The construction of notions of professionalism. |
| Unit of observation and analysis | Phrases used in the CPC and scholarly literature on professionalism. Responses from representatives of PBs. |
| Methodology | Constant comparison approach using structured interviews with representatives of PBs and search of scholarly literature. |
| Logic linking the data to the propositions | Practitioners embrace a sense of being in a workplace. The TMPs can construct professionalism to gain a practitioner essence of being in an occupation. A practitioner's essence of being can be gained from the needs served and tools used to serve. Practitioners use CPCs and ethics to discern what is acceptable standards because the CPC should be reflecting a practitioner's being at a workplace. Sensemaking, premised on a practitioner essence of being in an occupation, should help the researcher investigate and document the construction of professionalism. |
| Criteria for interpreting the findings | Constant comparison approach to create themes that show emerging notions of professionalism and their relationship to professional accreditation regime. |
| <i>Source: Yin, R. K. (2018). Case study research and applications: Design and methods (6th Ed). London: Sage publications Limited.</i> | |

We complemented the interview results with content analysis of the CPC and policy statements published by the four PBs. The content analysis of the CPCs and published policy statements established evidence of common themes used by the four dominant PBs in the BRP space. We used an iterative process to classify statements reflecting notions of professionalism. The emerging notions of professionalism or phrases were used to do a literature search in the third component of the study. We examined the policy statements appearing on the selected PBs' websites for specified thematic content or other professionalism expressions. This consideration of thematic content was necessary to establish consistency between a PB's policy statements and the associated CPC. The results of this process are summarised in Table 5.

The third component dealt with document content analysis of the literature on professionalism. We selected literature from databases with a wealth of scholarly literature on professionalism published from 2005 to 2020. The qualitative content analysis of scholarly literature provided us with an abundance of publications on the subject and an opportunity to interrogate professionalism as perceived in the international community within economics, law, and management. The search of scholarly literature and content analysis occurred over eight months. The choice of the period 2005–2020 was informed by the fact the CIPC should have considered the professionalism construct that was most recent (five years old or less) to inform regulated BRPs when the Act was promulgated in 2008 and implemented on 1 May 2011.

The third component of the study proceeded in two phases to achieve the necessary rigour and attach more context to the interview results (Table 4). We studied literature to discern notions of professionalism cited in the definition and accounts of the concept in each selected article. We then scrutinised the notions

of professionalisms using the constant comparison procedure to uncover the themes within the identified essentials of professionalism. The results are shown in Table 6.

The fourth component of the study was to integrate the results of the preceding study components to advance a framework for the construction, investigation, and documentation of occupation professionalism. The MPB could have its own ways of constructing professionalism. To achieve coherence within the BRP occupation, an integrated framework was needed to help the accredited bodies converge in their construction of notions of professionalism. The convergence point targets a BRP professional accreditation framework. The validation of the notions of professionalism can be expected to occur through the adoption of a professional accreditation framework.

The literature quest entailed searching in the Ebsco and the JSTOR databases for articles published from 2005 to 2020. The search headings were premised on the results identified in the first and second components of the study. The topics we identified in the interview results with informants from the four PBs also helped shape the search topics. The interview results and content analysis of the CPC revealed what PBs envisage practitioners to acquire through learning and development processes.

The search headings, therefore, included 'professionalism and attitude', 'professionalism and independence', 'professionalism and ethics', 'professionalism and identity', 'professionalism and honesty', 'professionalism and commitment', 'professionalism and education', 'professionalism and integrity', 'professionalism and competence', 'professionalism and objectivity', 'professionalism and services', 'professionalism and responsibility', 'professionalism and altruism', 'professionalism and humanism', 'professionalism and regulation', 'professionalism and probity', 'professionalism and confidentiality', 'professionalism and values', 'professionalism and education', and 'professionalism and judgement'. This search process yielded the article in the bibliography.

Data analysis after coding

The coding of the notions of professionalism provided ground to examine possible themes of professionalism using the constant comparison approach (Kolb, 2012: 84). During the first component of the study, we compared data from the interviews. We asked questions about what value information was in relation to the CPCs and policy statements or enabling legislation. We identified different feature categories (notions) and magnitudes from the data. The constant comparison approach entailed an iterative aspect process of scrutinising and comparing diverse notions of professionalism from different informants, CPCs, and scholars to provide emerging themes. The emergence of a theme was evident from recurring examples across data. We then examined the emerging themes in the literature in relation to the interviews results with PB representatives and the content analysis of the existing CPCs of the four PBs used in the BRP process. Discrepancies in the codes were addressed and resolved through discussions with the representative of the PBs and by examining how professionalism should be constructed in the BRP space. The results are in Table 7. During this process, we were able to test if an emerging picture of professionalism were valid and whether additional aspects should be explored and added. There was no need to add other informants from other PBs as no new notions of professionalism would have emerged.

Results and discussion

Professionalism and associated elements from interviews

Different continents have different approaches to professionalism, as evident in the overemphasis of character traits of professions in the United States instead of professional behaviour and attitudes (Van Mook et al., 2009). Trait theory has thrived side by side with the social closure strategies that advocate for professional occupations to demonstrate professionalism through (1) exercising self-control as exercised in through autonomy, collegiality and special knowledge and expertise (Bell & Cowie, 2001); (2) command esoteric expertise learned through prolonged training after high school (Freidson, 2001); (3) performing professional tasks that have a social value (Pareto, 2017); (4) admission members seeking to influence notions of social value (Askary, 2006); and (5) use of ethical code to regulate professional practice (Wright, 2008).

Because of the recognised continental differences in the construction of professionalism alluded to in the literature, we held interviews with representatives of four PBs whose members serve as BRPs. Table 4 presents the unpacked results of the interviews with the representatives of four PBs. The interviews show

that the BRP occupation lacks a specific qualification with learning outcomes addressing a BRP service delivery package and tasks. The knowledge base and structure are likely to disintegrate among the different BRP-supplying PBs. However, we noted that efforts had been initiated to offer short courses as part of CPD events. The short courses are non-credit bearing and do not contribute to certificates of competence.

The TMA's SA chapter distinguishes itself as the only PB whose members focus on BRP-related work. The other PBs offer BRP-related services along with other services as defined in their respective CPCs. The SARIPA members were historically known for liquidation services. Because BRP-related work is in addition to the other services offered by PBs' members, the PBs have worked on a policy that encourages collaboration among the members of various professional bodies to offer and enforce uniform CPD events (CIPC, 2020).

The CPD events are designed to develop practitioners' understanding and knowledge in the BRP field and its tools. The selected PBs relies significantly on practice notes from the CIPC (the regulator) and have not developed practice tools to enhance members' practice standards. For example, there was no mention of an engagement letter and business rescue plan as practice tools. Published training materials for learning and development are non-existent. Those interviewed battled to refer us to a textbook relevant to the BRP discipline, which continues to be treated like any other business advisory service.

The accountancy and legal profess have three-year traineeship requirements for candidates seeking professional certification. The trainees who enter traineeship agreements gain practical training within legal or accountancy practice firms. The practice firms in these fields do not concentrate on BR services. The value of developing pipeline talent through mentorship contracts was acknowledged but has not been adequately extended to the BRP occupation. The list of licensed BRPs from different PBs is accessible. However, no attempts have been made to link trainees to licensed BRPs for trainees to be mentored on BRP matters. This situation is likely to limit the development of a pipeline talent in BRP matters. The absence of a mentorship arrangement could be compounded by the acknowledged lack of a competency framework from the PBs providing learning outcomes on BRP.

The selected PBs lack established standards and practices to manage and control the quality of work expected from BRPs. Reliance is placed on the legislated checks and balances linked to the stakeholder participation and the need for an aggrieved party to petition the high court in instances of practitioner misconduct. The four PBs contacted do not provide a peer review mechanism of practitioners work on a turnaround assignment. The CIPC commands inadequate capacity to do inspections of BR engagements performed by licensed practitioners. Those interviewed noted that the CIPC is the regulatory body for the licensed BRPs and may be required to undertake quality control tasks regarding the work of licensed BRPs.

There are different processes of professional socialisation (the acquisition of values, attitudes, skills, and knowledge) relevant to BRP culture that PBs have adopted. The process ranges from drawing members from accredited teaching faculties at recognised higher education institutions to CPD events. Two of the PBs contacted made use of short courses (CPD events) as a mechanism for practitioners' socialisation relevant to BRP work. The use of CPD events for BRPs socialisation does not equate to the socialisation during higher education training at accredited teaching faculties in higher education institutions.

Two of the PBs concentrate on liquidation and business rescue as their unique area of work. The legal and accountancy PBs embrace the work done by the SARIPA, including bankruptcy and insolvency, and BRA-SA as business advisory services. The situation diminishes the uniqueness of the selling proposition of the practitioners from the accredited bodies.

Professionalism and associated essentials from codes of ethics

There is representative literature on how to analyse CPCs. Notably, Gaumnitz and Lere (2002) investigated the content of CPCs for professional organisations representing the economics, law and management disciplines of accountancy, human capital, computer information technology, risk management, marketing and sales, operations management, and real estate. Gaumnitz and Lere (2004) built on their 2002 study to formulate a systematic framework for analysing CPCs using a numerical presentation to reflect six attributes of CPCs. These attributes of CPCs pertain to thematic content, tone,

and structural form (level of detail and shape). In this study, we were interested in substance over form instead of the structural forms of professional codes of conduct and PBs' policy statements that impact occupation practice. We employed centring resonance and textual analysis. Resonance and textual analysis use linguistics theory to assess main concepts, their influence, and their interrelationships (Canary & Jennings, 2008; Dooley, 2016).

Table 5 presents the results of the analysis of the four CPCs and explores whether common values are evident by qualitatively analysing the four CPCs. This also enabled us to establish how individual PBs have used the CPCs to frame professionalism. We found that three of the PBs do not refer to corporate turnaround or business rescue as a core area of service for their members. Their scope of services tended to include services other than BRP services. The PBs have made no attempts to reference the legislated rescue requirements in their respective CPCs. In addition, matters regarding the professional appointment, acceptance, and termination of BR engagements are not explicitly highlighted to address unprofessional acts like those in Text Box 1. None of the four CPCs analysed allow practitioners specific discretion powers regarding professional fee determination.

Fundamental ethical principles for professional conduct covered in the analysed CPCs included integrity, fairness, honesty, confidentiality, technical competence, and independence. Yiu (2008) contends that professional ethics are linked to professionalism as standards of professional behaviour. Therefore, professional ethics go beyond the legal and individual moral standards to embrace tort (negligence) law evident in the requirements for competence and duty of due care. The reviewed CPCs emphasise social values, enhancing trust by avoiding conflict of interests, and professional responsibilities, such as collaboration, self-regulation, and mutual respect.

It is evident from Table 5 that professionalism within an occupation is constructed with reference to work outputs, the work done, practices shouldered, attitudes in dealings with others, and intellectual underpinnings, such as knowledge base, structure, acquisition, degree of evidence-based reasoning, comprehensive understanding of knowledge, and build-in problem-solving mechanisms— notions of professionalism as constructed from Table 5 point to the need for professionalism in every occupation. Professionalism comes to life whenever practitioners' shoulders work practices to provide a defined work output or service. All four CPCs provide a scope of professional services. This finding is consistent with Evans's (2011: 855) contention that professionalism is about a practitioner's essence of being in a work context. Ethics can, therefore, be seen as an ingredient of professionalism, and the latter should not be treated as an ethical principle.

Professionalism and its essentials from the selected literature

We completed the search for literature using key phrases to access the relevant literature. We qualitatively analysed the contents of the selected articles. We examined the references of the selected articles for missing scholarly articles. The selected articles were further sorted using an inclusion criterion that required the selected article to be relevant to the field of economics, law, and management. Articles relating to health professionals, engineering, and architecture were excluded. In addition, the selected articles had to contain a description or a definition of professionalism. We were able to identify distinct definitions and meanings attached to professionalism and its essential elements. The adopted selection process resulted to 192 scholarly articles that were related directly to the aim of our study and are included in the bibliography. The list of references only contains sources that are cited in the text write up. Descriptions in the selected literature referring to 'integrity and competence' as 'values in professionalism' compelled us to code 'competence' and 'integrity' as distinct notions of professionalism.

Content analysis of the selected articles established that scholars lack a shared definition of the notion of professionalism. Several articles listed professionalism as a principle of a code of ethics. The explanations offered for the nature of professionalism are diverse in their cited components and their descriptive details. Instances in which professionalism was defined in a sentence and with reference to the CPCs or ethics were noted. Other scholars offered more than four components of professionalism. In only 117 cases were constituent notions of professionalism covered in the articles. In 75 cases, the constituent notions of professionalism were taken for granted and had to be inferred from the context in which they were raised. We found less than explicit definitions of professionalism in articles dealing with professional ethics

education as they assumed a shared understanding of professionalism as a principle of professional, ethical conduct.

Table 4: Results from the structured interviews

| Item | Law Society | SAICA | SARIPA | TMA-SA |
|---|---|---|--|---|
| Contents of current syllabus and its relevance to BRP. <i>[Dealings with the PB – what is the knowledge structure, the understanding and acquisition of esoteric knowledge and skills]</i> | Legal aspects of business rescue are addressed in courses dealing with business association laws. | Specific accountancy qualifications offered by accredited universities. No content on business rescue. | No qualification because membership open to more one specialisation. Reference made of the University of Pretoria's (UP) one-year Certified Rescue Analyst qualification | No specific qualification offered by the university. Reference made to Certified Rescue Analyst qualification provided by the UP |
| Unique selling proposition from the PB. <i>[Dealing with others in a distinguishable way]</i> | Legal services: litigation, notary, and conveyancing. | Chartered accountancy with a focus on audit assurance, tax, and business advisory. Business rescue follows under business advisory | The SARIPA reckons to be the largest PB in SA in the BR occupation and participates in the solvency and restructuring activities worldwide. | Business rescue and BR services. Affected parties preferring BRA-SA |
| Distinguished services offered by the PB. <i>[Dealings with work tasks and services]</i> | Legal services as defined in the legal practice Act. Members undertake work according to a client's brief. | Auditing, accounting, independent review, management consulting, and financial management. Members undertake work according to the letter of engagement and plan | The SAQA recognises SARIPA for its insolvency and rescue services. Members have been appointed in the BRP matters to date. | Members off BRP services. The BRA-SA is a professional association and does not take on work done by lawyers, accountants, auditors, etc. outside the BR process. Members undertake work according to a rescue plan |
| The PB's support to members serving as BRPs. <i>[Dealings with the PB]</i> | Reliance placed on practice notes issued by the CIPC. Ensuring good standing of members to meet accreditation requirements. | CPD help members gain insights into BRP practices, prepares a letter of good standing for the member to obtain BRP licence, disciplinary for misconduct, monitoring the CPD activities. | Regular Webinars on BR practices, practice notes and case law updates. | There are numerous practice notes covering topics that range from initiating business rescue to reasonable prospect to the charging of fees. Tools for planning, reporting to court and CIPC emerge from CIPC practice notes. |
| Practice tools available to members serving as BRPs. <i>[Dealing with work tasks: how services are rendered]</i> | The CIPC-developed practice notes and circulars. Rescue plans as per the Act. | The CIPC-developed practice notes and circulars. No specific tools used as in the case of audit assurance. | The members rely on the CIPC-developed practice notes and circulars. Rescue plan as | The CIPC-developed practice notes and circulars. Members prepare rescue plans to guide BRP assignments. |

| Item | Law Society | SAICA | SARIPA | TMA-SA |
|--|---|---|--|---|
| | | Rescue plan as per the Act. | per the Act. | |
| Support training materials are known and used in the development of members practising as BRPs. <i>[Dealing with the PB: Knowledge understanding and acquisition]</i> | Case law book, relevant legislation. | Members uses any available course materials used in CPD events. | Detailed courses presented at the University of South Africa and the UP. | There are no specific recommended textbooks. There is a certified rescue analyst course that BRA-SA developed jointly with the UP. A good book is "Corporate Restructuring: From Cause Analysis to Execution by David Vance". |
| Established training contracts and mentorship on BRP-specific matters. <i>[Dealing with work tasks and services: Development of skills to the quiddity of BRP]</i> | No mentorship or traineeship agreements were specifically addressing BRP matters. | None. The SAICA has a register of BRPs, which is published, and trainees can use it to establish contacts with accomplished membership for mentoring. | Current mentorship is not formalised because aspiring young BRP's are welcome to the SARIPA for assistance in identifying mentoring opportunities. | No formal mentorship programme. Mentorship occurs with the UP course that covers business finance, tax, law, business management, and professional ethics |
| Established standards and practices to manage and control the quality of work expected from BRPs. <i>[Dealing work tasks and services – what is the required work behaviour]</i> | Seeking a second opinion on matters in which the practitioner lacks competence. | The CPC (requirement 113) requires that the BRP not to undertake engagement the BRP is not competent to perform. unless the practitioner obtains advice and assistance. | Reliance is placed on the legislated checks and balances and stakeholder participation and petitions to the high court. | None. Review occurs when instances of misconduct are brought to the fore. The BRA-SA a code ethics and practice standard have been published. These two combined with the accreditation policy are the key policies in respect of quality of work and benchmarking. |
| Established professional codes and competency framework applicable to BRPs. <i>[Dealings with the public, clients, and others]</i> | Professional principle and Legal Practice Act apply to attorneys and advocates. | The CPC contains requirements dealing with business advisory services. Competency framework exists for Chartered Accountants without BRP specifics. | The PB does not have a distinct competency framework for those seeking membership. | On the website, there is a code ethics and practice standard that is published. The two documents go together with the accreditation policy, specifying the qualifications required to apply for membership. |
| Established process of professional socialisation to acquire values, | Training of lawyers from accredited faculties, training | Training of chartered accountants from | Short courses offered by the University of | The member accreditation policy refers to conference, |

| Item | Law Society | SAICA | SARIPA | TMA-SA |
|---|--|---|---|---|
| attitudes, skills, and knowledge. [<i>Dealing with others: perceptions, beliefs and views held; people's values; and people's motivation, occupation satisfaction and morale</i>] | firms. There is a common platform for CPD for lawyers. | accredited schools of accountancy and training firms. Besides, there is a common platform for CPD events. | South Africa, the University of Johannesburg and the UP. No limitations to unstructured networking opportunities. | annual BRA-SA events, and the Certified Rescue Analyst course offered by UP are used to entrench values, attitudes, and skills. |

Emerging themes from the literature and interview results

As seen in Table 6, we recognised a total of 38 constituent notions of professionalism. It is interesting to note that professional ethics, ethical conduct, technical knowledge, professional code, specialised knowledge and expertise, integrity, autonomy, commitment, standards-based work and education, and certifications were highlighted most frequently. The findings seem consistent with the perspective that professionalism is about a practitioner's essence of being in an occupation. The emerging themes of dealings with clients, dealings with PBs, dealings with the public and dealings with oneself resonate with the perspective of professionalism as a consideration of a practitioner gaining from a work context. The work context (not SAQA-recognised bodies) is what defines work practices and service.

The four emerging themes of professionalisms (Table 7) are linked to the different notions of professionalism reflected in Tables 4, 5 and 6. Table 7 provides a brief description of the themes in column 3. The integration of results in Table 7 shows that professionalism is not about the professional competence that has enjoyed attention from the CIPC, which recently issued a business rescue CPD policy.

Table 5: Focus of professional codes of ethics and constitutions

| Item | Law Society | SAICA | SARIPA | TMA-SA |
|---|-------------|-------|--------|--------|
| Scope of professional services | √ | √ | √ | √ |
| Meaning of BR practice or business rescue practice | | | √ | √ |
| BRP tasks outlined | | | | √ |
| Integrity and honesty as ethical principles | √ | √ | √ | √ |
| Objectivity as an ethical principle | √ | √ | √ | √ |
| Professional competence and qualifications | √ | √ | √ | √ |
| Due care and skill exercised during work | √ | √ | √ | √ |
| Professional confidentiality given as an ethical principle | √ | √ | √ | √ |
| Professional behaviour and reputation | √ | √ | √ | √ |
| Professional independence | √ | √ | √ | √ |
| Conflict of interest to discouraged to enhance trust | √ | √ | √ | √ |
| Links to the legislated corporate turnaround requirements | | | | |
| Public interest and relationship with the PB | √ | √ | √ | √ |
| Links to the PB's constitution and by-laws | √ | √ | √ | √ |
| Membership and subscription fees | √ | √ | √ | √ |
| Disciplinary structures, meaning of misconduct and sanctions | √ | √ | √ | √ |
| Requirements for members to comply with laws and regulations | √ | √ | √ | √ |
| Professional appointment and acceptance (engagement letters and client briefs) | √ | √ | √ | √ |
| The discretion granted in respect of charging professional fees | √ | √ | | |
| Members encouraged to seek second opinion or use third parties on complex assignments | √ | √ | √ | √ |
| Restricted marketing and advertising of services | √ | √ | | |

Source: Researchers' synthesis of available codes of professional conduct.

 The matter is not addressed explicitly in the policy and the CPC.

Table 6: Essentials of professionalism used scholarly definitions and descriptions.

| | | | |
|--|-----|--|----|
| Public interest | 45 | Public image/prestige/reputation | 44 |
| Attitudes | 31 | Professional appearance/dress code | 16 |
| Public trust | 44 | Confidence | 15 |
| Personal values / subjective characteristic | 25 | Commitment/devotion | 77 |
| Work in the interest of clients (focus) | 44 | Responsibilities | 47 |
| Professional ethics/ethical conduct | 86 | Mutual recognition, Courtesy and respect | 30 |
| Professional code | 80 | Standards-based work and education | 86 |
| Substance of specialist knowledge | 111 | Professional development/continual updating | 36 |
| Quality:(dependable) work outputs | 45 | Evidence-based practice | 18 |
| Professional abilities | 25 | Teamwork and collaboration/collegiality | 31 |
| Technical competence/skills | 91 | Certification/licence | 64 |
| Technological (methods of practice) | 28 | Body of practice | 16 |
| Experienced and maturity | 26 | Accountability | 42 |
| Objectivity | 21 | Accreditation and stringent entry requirements | 34 |
| Independence | 43 | Probity | 23 |
| Integrity | 73 | Honesty | 42 |
| Judgement (making decisions in complex situations) | 32 | | |
| Altruism/social values | 29 | | |
| Client advocacy | 29 | | |
| Fairness | 32 | | |
| Self-regulation/policing/direction | 58 | | |
| Autonomy | 101 | | |

Source: Researchers' content analysis of selected articles published during 2005-2020.

Dealings with clients – BR entities and clients

Dealings with clients recognise notions of professionalism that help the practitioner to provide legislated services effectively. The notions of professionalism in this theme give preconditions for effective and adequate contact with a BR entity and its stakeholders. The notions cover the need to have a cordial relationship with the client's BR entity. Educating the client on rescue options and the design of plans are essential. A few other notions of professionalism within this theme are relevant to dealings with stakeholders and other team members during a rescue operation. The nature of the work practice may lead to the demonstration of notions of 'dealings with clients' when a practitioner interacts with staff at a business rescue site and enlists the help of other experts.

Dealing with clients relates to what a practitioner does during a BR process. We, therefore, expect the notions of professionalisms to include work processes, procedures, productivity, and skills. A professional occupation comes into existence to render services and outputs that expertly meet clients' needs. To this end, Fatemi et al. (2018: 140) maintain that "most practitioners assume their clients prefer tax-saving strategies, even when not explicitly requested" and undertake tasks that favour clients.

Table 7: Emerging themes from dimensions of professionalism

| Theme | Aspects | Descriptions |
|---|--|---|
| Dealings with the PB | Collaborating with community of experts Competence and specialist knowledge Self-regulation and direction Professional reputation Continuous training and development Certification and licensing Methods of professional practice Mentoring of trainees | The theme is about a practitioner fulfilling the requirements regarding professional commitments to the PB and peers in the BR field. |
| Dealings with clients to provide services (work tasks) | Independent work Competence, due care, and skill Honesty and integrity Dedication and commitment Quality of outputs and services Evidence-based advice Trusted experts Confidentiality & respect Compassion and polite in relationships Educate clients on options available. Respect clients' right of shared decision making. Subservient self-interests | The theme is about a practitioner fulfilling the work practice requirements of occupation's purpose, status, specific nature and range and levels of service. |
| Dealings with the public, including government and others | Fairness and transparency Trusted expert Standards-based work and training Mutual recognition and respect Accountability Submission to an ethical code High level of expertise Methodological and thoroughness Technical competence Enhancing the welfare of the society Protect confidential information. Commitment to contribution of business to society Expert authority Autonomy of professional associations | The theme is about a practitioner fulfilling the requirements society imposes on the sanctioned occupation. |
| Dealings with oneself | Demonstrated maturity. Confidence and self-conception Dress code and appearance Continuing professional development Value corporate renewal work Unimpaired judgement Professional scepticism Response to stress and self-awareness Critical analysis | The theme is about a practitioner fulfilling the requirements to operate in the BR practice field as a practitioner. |

Dealings with professional associations

Dealings with professional associations constitute a theme because the CIPC requires practitioners to be members in good standing with their PBs. In terms of section 138 of the Companies Act (Act No. 71 of 2008) of SA, a person may only be appointed as a BRP if the person is a member in good standing of a legal, accounting or business management PB accredited by the CIPC. The CIPC's requirement, as set out in Notice No. 2 of 2019, is that the pre-requisite to be registered as a BRP is that the person must obtain a letter of good standing from their PB. Representatives of the PBs believe a practitioner dealing with the PB are important given the CPCs and the associated relational aspects.

This theme encompasses professionalism notions that pertain to prerequisites for becoming a member of a PB and remaining in good professional standing. Staying relevant and up to date in the field is as important as gaining admission. Some of the notions of professionalism in this theme relate to working

with colleagues, undertaking peer review work and CPD events, and contributing to the professional reputation. Other notions within this theme cover structured dealings with colleagues. Most notions are deemed relevant as part of a practitioner's essence of being in an occupation.

Dealings with the public and others

The third emerging theme puts together notions of professionalism that guide a practitioner's dealings leading to the fulfilment of the requirements that society, through Parliament, places on the BRP occupation. It deals with standards-based training and work practices and a trusted expert that is not conflicted. An illustration of these notions can be found in the work of Fatemi et al. (2018: 134), who contend that "... codes of conduct apply to all members but ... practitioners, in particular, are cast in a unique role of serving the public interest with their accountability to both clients and tax agencies (among other stakeholders)".

Public trust and interest obligate SAQA-recognised PBs to know relevant laws, to undertake practical and transparent self-regulation and to support the development of pipeline talent. Therefore, compared to dealings with the clients' theme, this theme addresses context values and requirements associated with the regular monitoring of professional commitments.

Dealings with oneself

The fourth theme relates to the dealings with oneself and addresses requirements that a practitioner must fulfil to operate adequately in the business rescue profession as an individual. The notion of dealing with oneself involves personal characteristics or behaviours that are deemed to impact the way an individual practitioner operates. This theme raises the role of attitudinal behaviour in professionalism as supported by Askary (2006) and Creasy (2015: 24), who argued that professional behaviours are observable actions that demonstrate the expert's appropriate behaviours modelling of the appearance, attitudes, self-management, and timeliness in the pursuit service. Examples of descriptions of elements of dealings with oneself are "courage, temperance or self-control, and justice—along with related moral virtues such as humility, integrity, patience, courtesy, modesty, and liberality" (Lail, MacGregor, Marcum, & Stuebs, 2017: 696). Representatives of the PBs expressed the need for practitioner socialisation through CPD events as a vehicle practitioner can use to gain a sense of belonging to the occupation.

Towards occupational professionalism construction and documentation

The results from interviews with the selected PB representatives, content analysis of the four CPCs and scholarly literature point to professionalism construction emphasising practitioner essence of being within the occupation. The emerging dimensions of the practitioner essence of being in an MPB context require a professionalism construction and documentation framework.

Figure 1 sets out the programmatic way of constructing, investigating and documenting professionalism to achieve the practitioner essence of being within the BRP occupation. Figure 1 (reading from top to down) begins with an understanding of BRP services and tasks from regulatory requirements in a jurisdiction and the results of interviews with practitioners. Pretorius (2014) recognises the existence of a BRP legal framework used to outline BRP tasks. Purposive interpretation of regulatory requirements can be employed to understand and document legislative services and tasks. Results from purposive interpretation can be complemented by the double results from interviews with members of the community of practitioners in the BRP occupation. The suggested process is envisaged to contribute to the inherent nature (quiddity) of professionalism. Occupations exist to serve needs, and fulfilling the needs creates the practitioner's essence of being.

Rajaram and Singh (2018) emphasise the importance of professional competence and confirm the efforts required to identify and develop BRPs' professional competence relevant to practitioners' work and services. The services and tasks are evident from service package objectives, tools, methods of work and work organisation. BRPs' tasks and services can be discerned from the legislative requirements and the CPCs subjected to purposive interpretation during the research process. In the present study, the BRPs' tasks and services were not confirmed by representatives of the four major PBs.

The arrows in Figure 1 show the interrelationships among different framework components. From the top-down in Figure 1, we argue that desired services dictate tasks shouldered by BRPs. These tasks

and service packs should help come up with an expert BRP profile and other ingredients of the PAF. The tasks shouldered to provide services inform professional competences, which can be used to develop learning and development resources (human capital investments) required to support professional accreditation. Professional accreditation is needed to deal with BRP licensing and to link BRPs to a PB. Therefore, services are required help define the BRP discipline boundaries for accreditation and certification purposes. The desired CPD regime should fall within the defined BRP discipline boundaries.

It will be unexpected for BRP professionalism to be constructed and developed outside a professional accreditation and certification process and without defining the theory and practice claim covered by the BRP professional certification. Professional training that is informed by a PAF and certification activities define the notions of professionalism. Professionalism founded on services, tasks, methods, expertise, and ethics becomes relevant after BRPs have claimed their ability to perform at defined standards, as articulated in the professional accreditation regime. Professional learning and development interventions can be facilitated by PBs and higher education institutions to develop competent BRPs. Dealings with others in learning and development enhance the practitioner's essence of being in an occupation, and therefore, higher education institutions and PBs serve as critical sources of data to develop the professional accreditation regime.

Conclusion

We argued that professionalism is about a practitioner's essence of being in an occupation context. The PBs supplying BRPs construct professionalism differently (Tables 4 and 5). This has implications for the exercising of professionalism in the corporate turnaround assignments. The CIPC, through its regulations and CPD policy (CIPC, 2020), advocates for professionalism in the BRP occupation. However, the difficulty remains in understanding, identifying, constructing, and documenting professionalism in an occupation context. Figure 1 summarises these aspects and points to integrated data collection procedures in the design of a PAF. The emerging relational perspective of professionalism as constituted by a practitioner's essence of being in an occupation suggests that the CIPC moves away from specialist knowledge and skills towards a practitioner's dealings with oneself, the public, PBs, and clients. Using such elucidations of professionalism lead to informed choices on professional accreditation, learning and development. The integrated exploration supports the notion that our understanding of professionalism is fragmented if the BRP fails to link brains and hands power to tools of the trade, needs to be served by practitioners, professional behaviour, and professional attitude to others.

The article's key contribution is to interpretatively explore the constructed meaning of professionalism as an organising framework for the MPBs shouldering BRP work. It provides a pragmatic path for the construction and documentation of professionalism (Figure 1). It also enhances the professionalism literature by exploring how the concept is understood and socially constructed within the scholarly literature. We examined notions of professionalism within an existing MPB landscape from the perspective of a practitioner's essence of being in an occupation to enhance BRP professionalism in an integrated way.

Implications

Our examination revealed that a practitioner dealing with the client (given services required), the PB, the public and others, and oneself contribute to a practitioner's essence of being in the work context. The defined dealings are relevant in the delineation of the BRP as a discipline worth of professional and academic pursuit. We conclude that professionalism is a multidimensional construct and relational within the MPB occupation setting. The multidimensional aspects of professionalism led us to explore a pragmatic approach to constructing, investigating, and documenting professionalism in the BRP occupation (Figure 1). This is important in the design of a professional accreditation framework to create a uniform basis of practitioner learning and development.

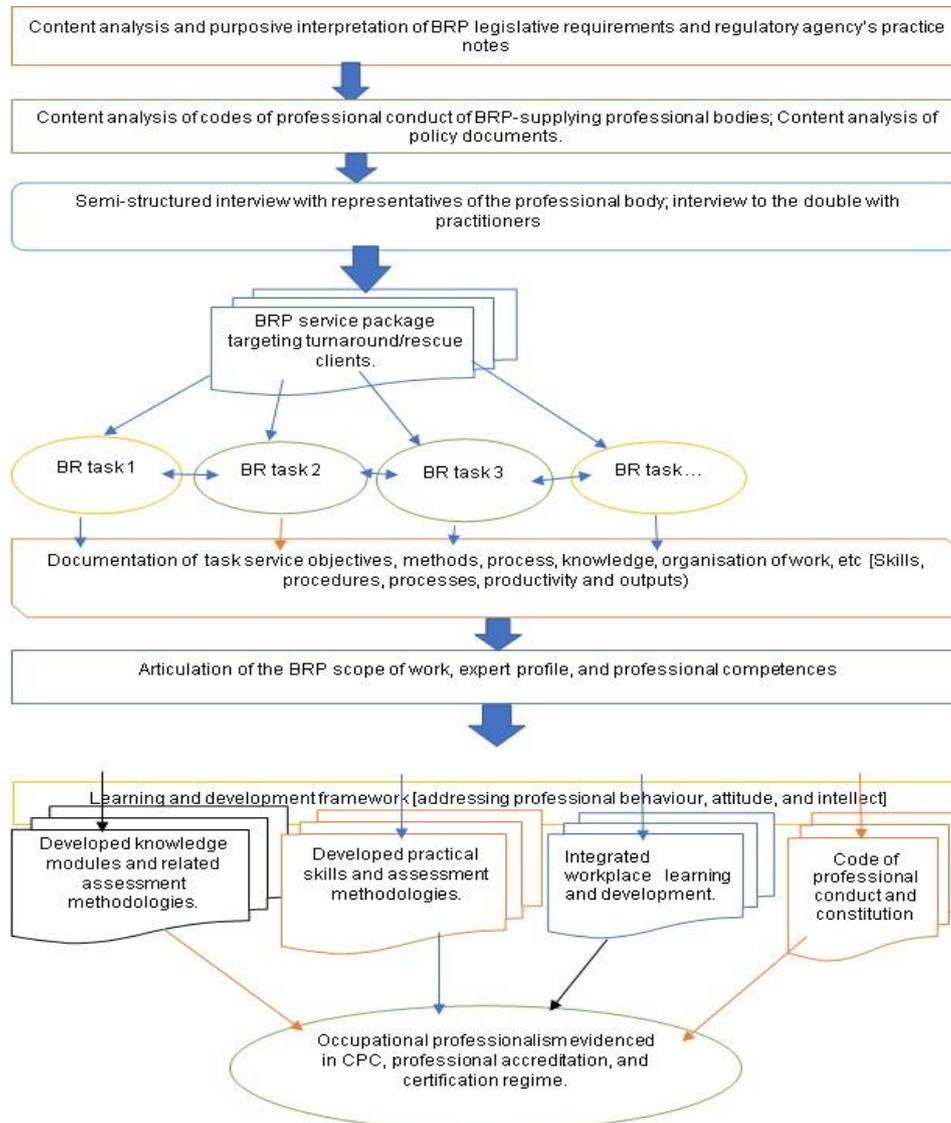
The different PBs are not bound up with similar socially constructed notions of professionalism. Some of the PBs have a history of providing business consultancy services alongside other services. Such PBs have notions of professionals that reflect the business rescue profession as an additional service that add to their members' already embraced notions. Moreover, the social construction of professionalism is linked to the practitioners' essence of being at the workplace, which starts with higher education training.

Therefore, the notions of dealings with clients, government, and others, PBs, and oneself in the context of the business rescue profession cannot be divorced from the past. Models of BRPs' tasks and services are based on the legislated requirements, and practitioners' explanations of practices, ethics and values are key to the refinement of the BRP occupation. The findings of the study point to the need for a pragmatic framework to help construct, understand, document, and investigate what constitutes professionalism in the BRP occupation. Theories on professionalism and professional competence emphasise specialist knowledge, skills, and work performance to the exclusion of a practitioner's essence of being in the work context.

Limitations of the study and directions for future research

The conclusion is derived from interviews with the PBs' representatives and content analysis of CPCs and scholarly literature. Currently licensed BRPs were not interviewed. Therefore, detailed interviews for double and purposive interpretation are needed to provide a grounded basis for the construction, understanding and investigating professionalism as an organising framework for practitioners drawn from MPBs. Purposive interpretation is pertinent to future research because the BRP occupation is a regulated practice. The understanding of BRP practices requires purposive interpretation of the legal prescripts on the BR process.

Practitioners in communities of practice have not been used to suggest how professionalism can be enacted comprehensively through experience. Furthermore, investigations are needed to establish professional trajectories regarding occupational practice specifics, including business rescue strategies and turnaround risks. Another aspect worth investigating is how PBs vary in ways of practising business rescue management and how this reflects the more comprehensive international practices. An additional issue is to investigate the degree to which professionalism is the fundamental vehicle for enhancing professional practice in emerging fields. Such investigations may require a historical exposition of a practitioner's essence of being through different stages of an occupation's evolution. Figure 1: Pragmatic construction and documentation of professionalism.



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The impact of assistance in development of different sectors of the economy - the case of Kosovo

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Keywords

aid, donors, economic development, FTE, sales.

Abstract

Kosovo's economy is young and dynamic. It has been transformed from a decentralized economy to an open market economy. As an important place for business development, Kosovo offers several advantages such as a young and well-qualified population, natural resources, etc. Creating an environment for sustainable economic growth and improving competitiveness has been the main focus of supporting various donors (World Bank/WB, United States Agency for International Development/USAID, etc.) for Kosovo from the transition from crisis to long-term development, working closely with the Government of Kosovo to face challenges and mitigate obstacles by building a sound and market-based economy. This paper is bringing an overview of economic development in Kosovo and provides an analysis of the impact of donors in the development of various economic sectors, especially during the most delicate period that Kosovo has gone through and specifically the transition to an open market economy. The purpose of this study is to prove and demonstrate the impact of donor assistance on economic development in various sectors in Kosovo as a necessary tool to maintain the sustainability of best practices in any field of economics and based on the findings of the study to express our views.

Introduction

Kosovo has made good progress and is in an early stage of developing a more or less functional market economy. The business environment has improved, and the government has complied with the fiscal deficit rule. The informal economy remains pervasive. It particularly affects women and young people and unskilled workers. Despite strong export growth, the high trade deficit reflects a weak output base. Kosovo's medium-term development prospects are positive and on an upward trend, but it needs a stable political environment and a better business climate to attract productive investment. (World Bank, 2018)

As a partner in the implementation of reforms, Kosovo has had the continuous support of various donors such as the World Bank, USAID, European Union (EU), Deutsche Gesellschaft für Technische Zusammenarbeit/German Agency for Technical Cooperation (GTZ), Department for International Development (DFID), Danish International Development Agency (DANIDA), Swedish International Development Cooperation Agency (SIDA), etc. Here we can mention that the largest contribution was provided by USAID, World Bank, and EU.

In our work we want to bring a very important role of these donors in the development of various sectors of the economy, considering them as partners in the development of Kosovo and maintaining the stability of the economy, because cooperation is one of the main and key "elements" for achievement in a specific country.

Literature review

There is various research that maintains that aid from external donors has positively influenced the development of a country. However, the fact that many developing countries, despite high economic aid from abroad, remain at a relatively low level of development, has motivated several studies that have concluded that foreign economic aid from donors has a significant impact. negative impact on the economic development of a country.

As mentioned in the Burnside and Dollar study, "critics on both the right and the left have questioned the usefulness of foreign aid. Conservative critics hold that aid supports large, inefficient governments

that create a bad environment for economic activity. On the other hand, the left has argued that aid agencies have imposed structural adjustment policies on reluctant countries and that these policies have not delivered the promised benefits. Several papers have attempted to measure the impact of aid on saving, investment, and growth in developing countries [Levy (1988) and Weisskopf (1972)]. Studies by Boone (1995) have concluded that aid has no significant positive impact on growth.

In general, it is found that aid has a positive impact on the economic growth of investment, expanding production and export capacity, and increasing employment. Developing countries with strong policies and high-quality public institutions have grown faster than those without. Aid has successfully supported poverty reduction and growth promotion in many countries.

Several studies of the empirical literature on aid effectiveness have attempted to assess whether aid achieves its main objectives, which is the promotion of economic development and well-being in developing countries. Lack of savings, which is crucial for investment, is generally seen as a major constraint to economic growth in these countries.

In contrast, foreign aid is significantly and negatively correlated with growth. There are various underlying causes such as dependency on aid, economic mismanagement by recipient countries, corruption, and poor coordination and cooperation between aid agencies, etc. Many researchers find that foreign aid harms growth. A high level of aid disintegrates institutional quality, increases corruption; therefore, it negatively affects growth. Gong and Zou show a negative relationship between aid and growth.

In this document, we will assess the impact of foreign aid on the Kosovo economy.

Benefiting from aid and impacts on economic development

In line with the European Council's conclusions from the Copenhagen meeting in June 1993, EU accession requires the existence of a functioning market economy and the ability to manage competitive pressure and market forces within the Union.

Monitoring of these economic criteria should also be seen in the context of the central importance of economic governance in the enlargement process. Each enlargement country prepares an economic reform program each year, which sets out a medium-term macro-fiscal policy framework and a structural reform agenda aimed at ensuring competitiveness and inclusive growth. These programs are the basis for country-specific policy guidelines, jointly adopted by the EU and, in our case, the region of Western Balkans.

Although Kosovo is in the early stages of developing a functional market economy, it has experienced economic growth, although this may be evidenced as slow growth. Recommendations of the European Union (European Commission Report, 2018, p. 38) to support long-term growth are:

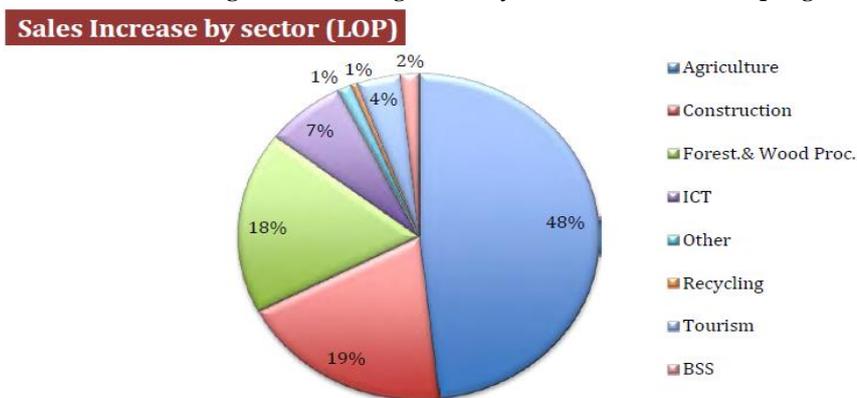
- increasing financial stability and improve the efficiency of public spending
- addressing the basic legal and institutional factors that hinder access to finance for businesses.
- increasing labor market participation and employment, especially for women and young people

Knowing that one of the main donors in Kosovo was USAID, based on the study of their programs assessment of key macroeconomic indicators was made, and concluded that some of these key indicators, such as employment, were not at the appropriate level to ensure a market-oriented economic development. We have identified while conducting the research phase for this paper in studying specific USAID projects: Kosovo Business Support (KBS), Kosovo Cluster Business Support (KCBS), and Kosovo Private Enterprise Program (KPEP) that there is a high level of unemployment (40%) while over 98% of businesses in Kosovo employ less than 9 employees and that education system was still under the effects of the political regime of the 1990s (https://pdf.usaid.gov/pdf_docs/PA00JD9W.pdf). According to preliminary studies of the current conditions in Kosovo before the start of this USAID project in support of economic development, targets were also set to be achieved by the program, which was sales, investments, exports, and full-time equivalent (FTE). By the end of this program (the year 2012) all these indicators marked an increase (see USAID final report for KPEP year 2013), but at the same time, three of these indicators are evidenced in our work to understand not just growth but to identify whether there was a link between the benefits received by businesses which were used directly with the increase in investment and sales revenue indicators (referred to in the report with the sales indicator) and the number of employees. For the two indicators that we have chosen in our study to measure the link between the

assistance received and indicator results, we will briefly provide, based on the USAID annual report for 2013, the progressive levels of the indicators. To explain the background of this study we will mention that the KPEP program had four components: Component 1: Increased Competitiveness of Key Sectors (including agriculture, construction, forestry and wood products, ICT, recycling, and tourism sector), Component 2: Business Support Services (BSS), Component 3: Business Enabling Environment (BEE) and Component 4: Work Force Development (WFD). Our focus was on components one and two.

At the beginning of the project, for the sales indicator, a target was set at a 23.4% increase on an annual basis and according to the project, an increase of 52.9% was achieved compared to the annual base set as a target. Total sales growth amounted to € 114.7 million (\$ 154.9 million), both in enterprises under component one and Business Service Providers, under component two. The progressive sales growth by sectors is presented in the chart below.

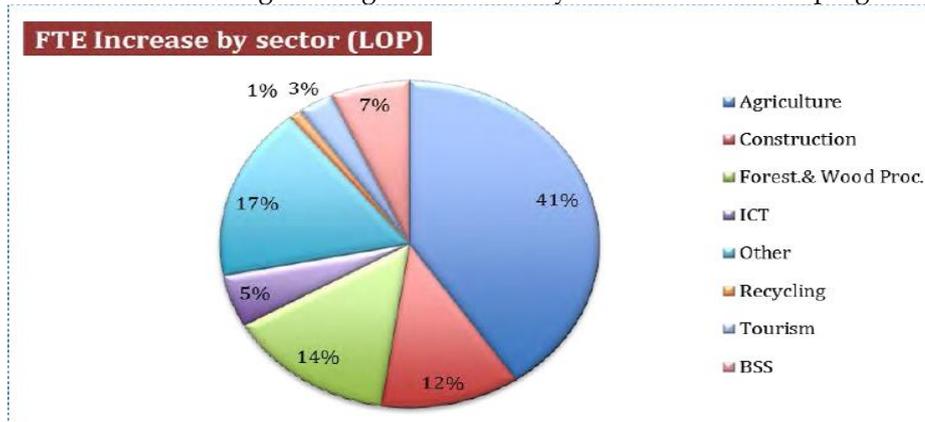
Chart 1. Progressive sales growth by sectors in the KPEP program



Source USAID Final Report KPEP-2013

The FTE indicator was set at 5,036 FTE jobs as a target. By the end of the project, there was an increase in FTEs by 6,727, of which 6,271 were created in Component One enterprises and 456 in Component Two, business service providers. The chart below presents the cumulative increase in FTE by sectors.

Chart 2. Progressive growth of FTE by sectors in the KPEP program



Source USAID Final Report KPEP-2013

Research Methodology

We have brought this paper, which aims to show how assistance received from various donors has affected different sectors of the Kosovo economy. Primary data obtained from companies that have received assistance from various donors, for the period 2004-2012, a period that was very important in the economic reforms in Kosovo, have been used to test the impact of aid. For data collection, direct contacts with the beneficiary companies that benefited from the grants were used. For the completion of the study, two variables were taken, the sales revenues and the number of employees, in the form of Full-time

equivalent/FTE, as the main indicators that determine the size of the enterprise, whereas the indicator of total assets was not taken into account when testing the hypothesis. The value of assets is singled out because this is a dependent variable on aid, which are nothing but sources of financing for assets, whether short-term or long-term, and the main reason for providing aid was to increase the level of investment. The number of employees indicator was converted to the FTE indicator (full-time equivalent - this indicator is determined according to the USAID donor definition. Of course, the work will have its limitations as long as it is based on these two indicators, but which are the indicators in which the data were collected from 204 enterprises for the period 2004-2012, which received donor assistance.

To realize and identify the purpose of our work and specifically to study the impact of aid at the industry level, to understand whether there will be a link between aid/support received and key indicators such as sales and FTE in each sector, we established a hypothesis.

Hypothesis: *There is no link between the level of assistance and the type of sectors*

The Kruskal-Wallis non-parametric test will be used to test for statistically significant changes in aid/investment by sector. Various statistical tests require the data to be quantitative and the data distribution to be normal, methods that require the fulfillment of these assumptions are also called parametric methods. But often the data that researchers have to work with is not quantitative i.e., the measurement scale may not be intermittent or in the form of a report, or the data distribution may not be normal. In such cases, statisticians suggest the use of methods called nonparametric methods unlike methods free from distributions. Also, statisticians suggest that if the assumptions required for the various statistical tests if the assumptions are met it would be better to use parametric methods as more robust testing methods. Several parametric and non-parametric tests are known in practice. In general, for one to be considered a nonparametric method it must meet at least one of the following conditions (W. J. Conover 1980):

- the method can be used for data measured at the nominal scale
- the method can be used for data measured at the usual scale
- the method can be used for data measured at the interval scale or in the form of a report when the assumption for probabilistic distribution is not met.

There are many non-parametric methods used for various statistical tests, among which we can mention the criterion of signs, Wilcoxon signed-rank test, Mann-Whitney U test, Kruskal-Wallis's test, Friedman test, ranking correlation coefficient, etc.

If tested to compare more than two populations and if assumptions about normal distribution, constant variances, and independent observations would be met, the most appropriate parametric analysis, in this case, would be analysis of variance, but in case of non-fulfillment of the assumption for normal distribution the nonparametric test suggested by statisticians is the Kruskal-Wallis's test. This test requires that data be collected for selections taken from different populations, that the data be sorted from smallest to largest, and that the distribution pattern of these rankings is viewed according to the different choices included in the analysis.

The statistical hypotheses that are tested in the case of this test are:

H_0 : *k populations are identical*

H_a : *k populations are not identical*

When the basic hypothesis is true, the distribution approximates the distribution χ^2 with a $k-1$ degree of freedom, where k is the number of degrees of freedom. The observed χ^2 value is calculated:

$$H = \frac{12}{n(n+1)} \sum \frac{T_i^2}{n_i} - 3(n+1) \quad (1)$$

Where:

n -total number of observations

n_i -number of observations for each election

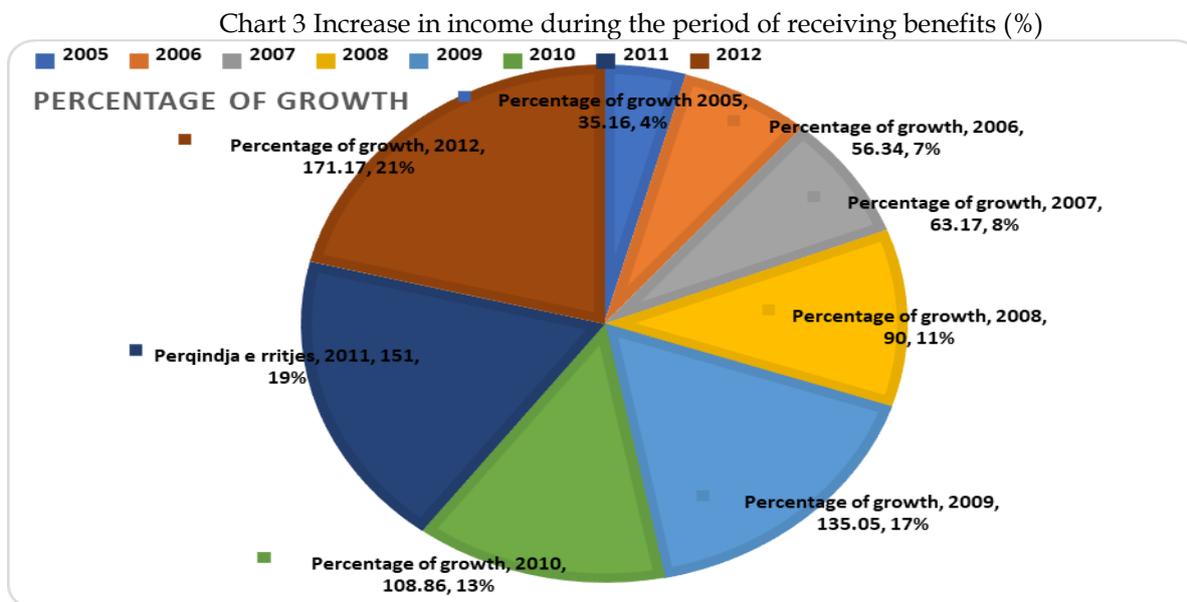
T_i -total ranks for each election

If the basic hypothesis is rejected it will be further analyzed by performing multiple comparisons to test between which populations these differences exist based on the Dunn-Bonferroni procedure.

Results

To confirm the hypothesis "There is no link between the level of assistance and the type of sectors" it was tested whether there are statistically significant differences in terms of assistance in different sectors.

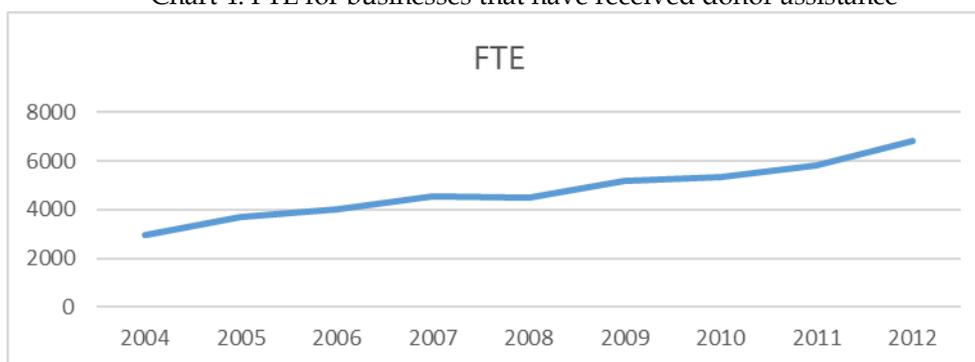
Initially, a general description will be given based on the impact of the assistance on the growth of the two enterprise size indicators as follows. The enterprises that have benefited from the aid, their income have increased significantly from 2004 to 2012. Specifically, from 78,328,070 euros to 212,402,000 euros, or by about 171.17%, a very significant increase. This trend of this indicator is only increasing without experiencing any decrease, unlike the value of aid which for the years 2010 and 2005 had the lowest values in the level of income, respectively for 2005 we have an increase of income by 35.16% compared with the first year 2004 for which the assistance was received and in 2010 we have an increase of 108.86% of income compared to the first year 2004 (see chart no. 3).



Source: data collected from USAID projects Kosovo Business Support (KBS), Kosovo Cluster Business Support (KCBS), and Kosovo Private Enterprise Program (KPEP)-processed from the author

The second indicator taken in our study is FTE and has the same trend as sales revenue; for the period from 2004 to 2012 has increased during the period of receiving benefits, which shows that the number of employees in enterprises has increased (see Chart 4).

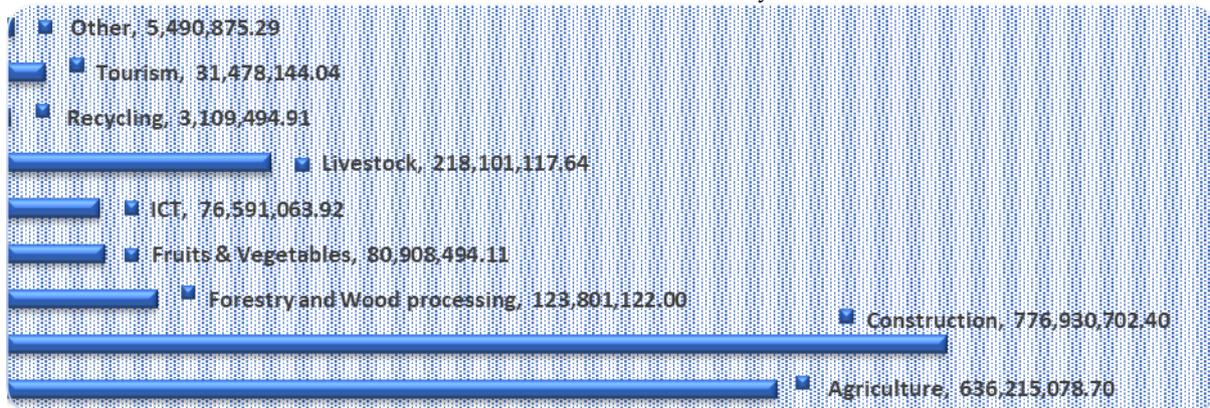
Chart 4. FTE for businesses that have received donor assistance



Source: data collected from USAID projects Kosovo Business Support (KBS), Kosovo Cluster Business Support (KCBS), and Kosovo Private Enterprise Program (KPEP)-processed from the author

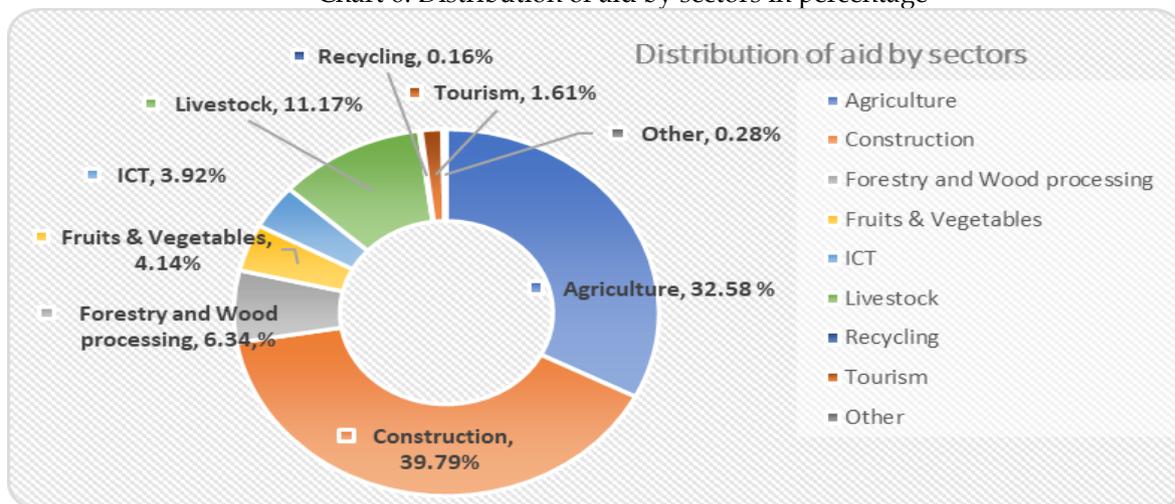
The distribution of aid by sectors is presented in Chart 5. The sectors that have received the most assistance during the period 2004-2012 from donors have been construction (39.79%) and agriculture with 32.58%. While other sectors have had the lowest share of benefits received such as livestock with 11.17% and sectors that have even lower weight is Recycling (0.16%), tourism (1.61%), others (0.28%).

Chart 5. Distribution of aid by sectors



Source: data collected from USAID projects Kosovo Business Support (KBS), Kosovo Cluster Business Support (KCBS), and Kosovo Private Enterprise Program (KPEP)-processed from the author

Chart 6. Distribution of aid by sectors in percentage



Source: data collected from USAID projects Kosovo Business Support (KBS), Kosovo Cluster Business Support (KCBS), and Kosovo Private Enterprise Program (KPEP)-processed from the author

Given that nine sectors were supported and are part of our study (Construction, Agriculture, Fruits and vegetables, Livestock, Recycling, Forestry and wood processing, ICT, Tourism, and some minor sectors marked as “Others”), we considered that the most appropriate statistical test to be applied in this case is the Kruskal- Walli’s test. We have tested whether the aid received in all these sectors is the same. The purpose of this hypothesis raised by us is the fact, to look at each sector and assess the impact of donor assistance and whether each indicator would depend on different sectors from the aid. The main reason for raising this hypothesis was the literature reviewed where the independent variable- sector was tested in some cases and studies concluded that sectors are an influential factor in donor’s aid direction. That is, donors during their decisions also start from the industry in which they want to make their investments. Consequently, we raise the statistical hypotheses as follows:

- H_0 : Aid in all sectors is the same
- H_1 : Aid in all sectors is not the same

Given that the value $p < 0.001$, indicates that aid in the nine sectors is not statistically the same (Table 1).

Table 1: Statistical test results

| Hypothesis test summary | | | |
|--|----------------------------------|------|--------------------------|
| Hypothesis zero | Test | sig. | Decision |
| The distribution of aid is the same through the categories of sectors. | Independence Test Kruskal-Wallis | .000 | Hypothesis 0 is rejected |
| Asymptotic significances are displayed. The significance level is .05. | | | |

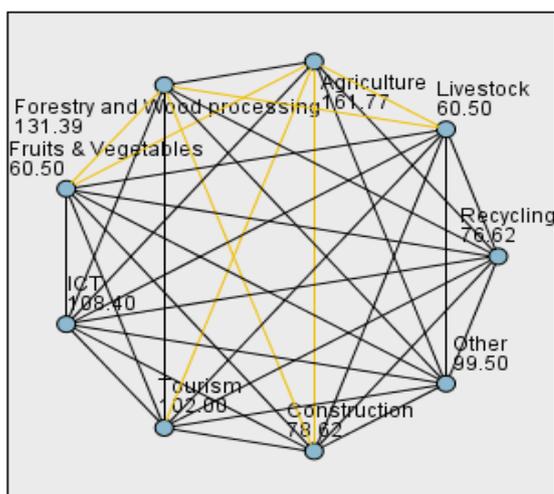
Source: data collected from USAID projects Kosovo Business Support (KBS), Kosovo Cluster Business Support (KCBS), and Kosovo Private Enterprise Program (KPEP)-processed from the author

Regarding the above, we can say that hypothesis H0 is rejected so the aid is not the same in all sectors.

While the statistical testing showed that there are significant changes, we decided to further deepen the testing in the component sectors for which assistance has been provided, and multiple comparisons were performed, the schematic presentation of all possible comparisons is presented below:

Chart 7 The effect of aid distribution across sectors

Pairwise Comparisons of Sektori



Source: data collected from USAID projects Kosovo Business Support (KBS), Kosovo Cluster Business Support (KCBS), and Kosovo Private Enterprise Program (KPEP)-processed from the author

Multiple comparisons were performed for each combination of the two sectors, based on the Dunn procedure. Statistical tests showed that there are statistically significant differences in aid/investment between these sectors:

- (Construction Sector-Agriculture sector $p < 0.05$)
- (Livestock sector - Forestry and wood processing sector $p < 0.05$)
- (Forests and wood processing sector - Fruits and Vegetables sector $p < 0.05$)
- (Forestry and wood processing sector - Construction sector $p < 0.05$)
- (Tourism sector - Agriculture sector $p < 0.05$)
- (Fruit and Vegetable sector- Agriculture sector $p < 0.05$)
- (Livestock sector- Agriculture sector $p < 0.05$)

All other cross-sectoral combinations indicated that there were no significant aid/investment differences between them.

As can be seen, the impact of aid is more distinct in the construction, agriculture, and tourism sectors.

At the end of the data analysis, we can say that in Kosovo the assistance received from donors has had its effects. The values of the aid received by the enterprises have influenced the increase of their size, which evidences the fact that the more an enterprise would receive aid, the more its size would increase (in terms of income and FTE). But the test showed that there is no link between the level of assistance and the type of sector that would benefit. Our argument for raising this hypothesis was the fact that in the initial developments of a country like Kosovo that emerged after the war, aid "would not have" the priorities of certain sectors to develop it. But the testing of this hypothesis as we said was rejected and it was found that there is a connection between them and especially in certain sectors such as construction, tourism and agriculture have had the greatest impact compared to other sectors where their effect was statistically unimportant.

Limitations and direction for future research

This paper comes as a study of a very special but also very important field seen in the view of the benefits of donor assistance in various sectors of the economy. The limitation of the paper exists especially in the in-depth study of this development as the data analyzed in our paper although belong to a long period from 2004-2012 again, they belonged to only the two main indicators of the specific size of entities and categories and in specific sectors.

An additional limitation is that the data were obtained only from the work and assistance of a USAID donor, who, although the largest and most important donor, was not the only one in Kosovo. The author of this study was not able to obtain data that could be comparable or complementary to the information received from the USAID donor. Therefore, it remains to be explored in future research as an additional opportunity to enrich this topic.

Due to the difficulty of data collection, since the project funded by foreign donors ended in 2012 the analysis of the study did not include the period after 2012. Exactly this period will have to be analyzed to see if it has continued and whether confirms the finding in our paper that donor assistance has affected economic development in general and in its specific sectors.

To the readers of this study, we tried to give an overview and an impetus to conduct further studies on donor assistance that benefit not only governments but also enterprises themselves, thus leading to increased quality of financial information, absolutely crucial for decision-making purposes.

Conclusions

Donors have contributed to improving the situation of Kosovo as an investment destination, ensuring adoption and compliance as much as possible, throughout the private sector of Kosovo, with the relevant EC directives, taking into account local business conditions and the stage of economic development. Our study indicated that receiving assistance from different companies operating in different sectors did not depend on each other, but for specific sectors, it has a statistically significant impact such as the construction, agriculture, and tourism sectors.

What is further required is to strengthen even more the coordination of the main supporting actors in Kosovo, such as USAID, World Bank, and EU, to continue the support of donors and to continuously seek to expand their support due to satisfactory results expressed in general macro and microeconomic indicators in Kosovo. One recommendation from this paper is that donor support should be spread throughout economic sectors of Kosovo, perhaps not evenly, but in all sectors, and not to focus only on construction, agriculture, and tourism.

Appendices:

| Sample1-Sample2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj.Sig. |
|--|----------------|------------|---------------------|-------|----------|
| Construction-Agriculture | -83.146 | 11.079 | -7.505 | .000 | .000 |
| Livestock-Forestry and Wood processing | -70.886 | 14.591 | -4.858 | .000 | .000 |
| Fruits & Vegetables-Forestry and Wood processing | -70.886 | 15.132 | -4.685 | .000 | .000 |
| Construction-Forestry and Wood processing | -52.767 | 13.866 | -3.806 | .000 | .005 |
| Livestock-Tourism | -41.500 | 16.131 | -2.573 | .010 | .363 |
| Livestock-ICT | -47.900 | 19.087 | -2.510 | .012 | .435 |
| Fruits & Vegetables-Tourism | -41.500 | 16.622 | -2.497 | .013 | .451 |
| Fruits & Vegetables-ICT | -47.900 | 19.503 | -2.456 | .014 | .506 |
| Recycling-Forestry and Wood processing | -54.761 | 28.637 | -1.912 | .056 | 1.000 |
| Construction-ICT | -29.781 | 18.538 | -1.606 | .108 | 1.000 |
| Construction-Tourism | -23.381 | 15.478 | -1.511 | .131 | 1.000 |
| Recycling-ICT | -31.775 | 31.169 | -1.019 | .308 | 1.000 |
| Livestock-Other | -39.000 | 38.400 | -1.016 | .310 | 1.000 |
| Fruits & Vegetables-Other | -39.000 | 38.609 | -1.010 | .312 | 1.000 |
| Recycling-Tourism | -25.375 | 29.452 | -.862 | .389 | 1.000 |
| Livestock-Recycling | -16.125 | 27.940 | -.577 | .564 | 1.000 |
| Fruits & Vegetables-Recycling | -16.125 | 28.226 | -.571 | .568 | 1.000 |
| Construction-Other | -20.881 | 38.130 | -.548 | .584 | 1.000 |
| Recycling-Other | -22.875 | 45.626 | -.501 | .616 | 1.000 |
| Fruits & Vegetables-Livestock | .000 | 13.767 | .000 | 1.000 | 1.000 |
| Other-Tourism | 2.500 | 39.513 | .063 | .950 | 1.000 |
| Recycling-Construction | 1.994 | 27.568 | .072 | .942 | 1.000 |
| Other-ICT | 8.900 | 40.809 | .218 | .827 | 1.000 |
| Tourism-ICT | 6.400 | 21.238 | .301 | .763 | 1.000 |
| Other-Forestry and Wood processing | 31.886 | 38.910 | .819 | .413 | 1.000 |
| ICT-Forestry and Wood processing | 22.986 | 20.093 | 1.144 | .253 | 1.000 |
| Fruits & Vegetables-Construction | 18.119 | 12.996 | 1.394 | .163 | 1.000 |
| Livestock-Construction | 18.119 | 12.362 | 1.466 | .143 | 1.000 |
| Other-Agriculture | 62.265 | 38.006 | 1.638 | .101 | 1.000 |
| Tourism-Forestry and Wood processing | 29.386 | 17.310 | 1.698 | .090 | 1.000 |
| Forestry and Wood processing-Agriculture | 30.379 | 13.521 | 2.247 | .025 | .887 |
| ICT-Agriculture | 53.365 | 18.281 | 2.919 | .004 | .126 |
| Recycling-Agriculture | 85.140 | 27.396 | 3.108 | .002 | .068 |
| Tourism-Agriculture | 59.765 | 15.170 | 3.940 | .000 | .003 |
| Fruits & Vegetables-Agriculture | 101.265 | 12.627 | 8.020 | .000 | .000 |
| Livestock-Agriculture | 101.265 | 11.974 | 8.457 | .000 | .000 |

Sector_1 = Construction

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Correlations^a

| | | | log Sales | Log FTE | Log Investment |
|----------------|----------------|-------------------------|-----------|---------|----------------|
| Spearman's rho | Log Sales | Correlation Coefficient | 1.000 | .450** | .821* |
| | | Sig. (2-tailed) | . | .003 | .023 |
| | | N | 42 | 42 | 7 |
| | Log FTE | Correlation Coefficient | .450** | 1.000 | .250 |
| | | Sig. (2-tailed) | .003 | . | .589 |
| | | N | 42 | 42 | 7 |
| | Log Investment | Correlation Coefficient | .821* | .250 | 1.000 |
| | | Sig. (2-tailed) | .023 | .589 | . |
| | | N | 7 | 7 | 7 |

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

a. Sector_1 = 1.00

Sector_1 = Agriculture

Correlations^a

| | | | Log Sales | Log FTE | Log Investment |
|----------------|----------------|-------------------------|-----------|---------|----------------|
| Spearman's rho | Log Sales | Correlation Coefficient | 1.000 | .434** | .552** |
| | | Sig. (2-tailed) | . | .000 | .000 |
| | | N | 108 | 106 | 44 |
| | Log FTE | Correlation Coefficient | .434** | 1.000 | .250 |
| | | Sig. (2-tailed) | .000 | . | .106 |
| | | N | 106 | 106 | 43 |
| | log Investment | Correlation Coefficient | .552** | .250 | 1.000 |
| | | Sig. (2-tailed) | .000 | .106 | . |
| | | N | 44 | 43 | 44 |

** . Correlation is significant at the 0.01 level (2-tailed).

a. Sector_1 = 2.00

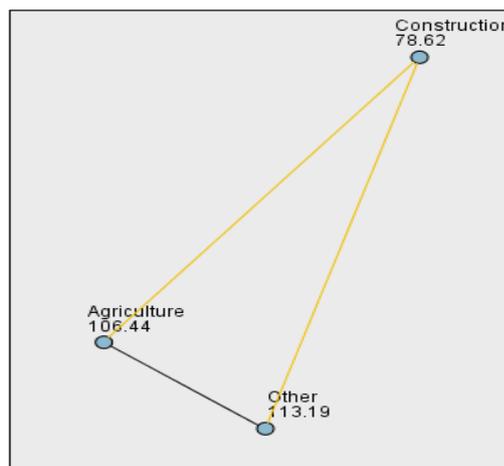
Sector_1 = Other sectors

Correlations^a

| | | | Log Sales | Log FTE | Log Investment |
|----------------|----------------|-------------------------|-----------|---------|----------------|
| Spearman's rho | Log Sales | Correlation Coefficient | 1.000 | .000 | .280 |
| | | Sig. (2-tailed) | . | .999 | .115 |
| | | N | 54 | 51 | 33 |
| | Log FTE | Correlation Coefficient | .000 | 1.000 | .215 |
| | | Sig. (2-tailed) | .999 | . | .246 |
| | | N | 51 | 51 | 31 |
| | Log Investment | Correlation Coefficient | .280 | .215 | 1.000 |
| | | Sig. (2-tailed) | .115 | .246 | . |
| | | N | 33 | 31 | 33 |

Sector_1 = 3.00

Pairwise Comparisons of Sektori_1



Each node shows the sample average rank of Sektori_1.

| Sample1-Sample2 | Test Statistic | Std. Error | Std. Test Statistic | Sig. | Adj.Sig. |
|--------------------------|----------------|------------|---------------------|------|----------|
| Construction-Agriculture | -27.825 | 9.581 | -2.904 | .004 | .011 |
| Construction-Other | -34.566 | 10.839 | -3.189 | .001 | .004 |
| Agriculture-Other | -6.741 | 8.781 | -.768 | .443 | 1.000 |

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

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Modelling owner's physiognomies & incitements for the adoption of enterprise application architecture for supply chain management in small and medium enterprises: A case of Capricorn District Municipality

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Keywords

enterprise application architecture, supply chain management, owner's physiognomies & incitements, small and medium enterprises & Security Architecture Design

Abstract

The adoption of enterprise application architecture (EAA) for supply chain management (SCM) in small and medium enterprises (SMEs) is influenced by the Owner's Physiognomies & Incitements on a routine basis. EAA is essential for optimum SCM performance since it enlightens and enhances enterprise services, software, and hardware. The purpose of this study is to examine the Owner's Physiognomies & Incitements for using EAA for SCM in SMEs in the Capricorn District Municipality. The empirical analysis is presented using data from a dissertation for a master's degree in commerce from 2018 to 2020. The study employs a quantitative approach based on a linear regression model. Cronbach's Alpha, descriptive statistics on the normality test, the Kolmogorov-Smirnov, Pearson Correlations, analysis of variance (ANOVA), Pearson's Coefficients, and linear regression are all included. Empirical investigation demonstrates that both the Owner's Physiognomies & Incitements are directly associated with EAA adoption. Overall, the model accounts for a substantial proportion of the variation in EAA adoption for SCM in SMEs. This work leads to the conclusion that there is a positive correlation between variables. The findings of this study will confirm the positive and negative impact of owner physiognomies and incitements on the adoption of EAA for SCM in SMEs. More research is required to examine the links between psychographic and behaviouristic owner incitements.

Introduction

The Owner's Physiognomies & Incitements play a significant role in the adoption of EAA for SCM within SMEs. Numerous algorithms are used for programming enterprise systems for SCM in the Fourth Industrial Revolution (4IR). According to Stok (2018), SMEs that survive are managed by entrepreneurs who are passionate about surviving difficult times, although internal and external environmental obstacles manifest with minimal economic benefits. Focusing on the Owner's Physiognomies & Incitements is an essential principle that induces perceived attitudes on three dimensions such as alternative user-base solutions, resistance to change, and technological aversion (Merritt, 2019; Law Insider, 2019). Since many researchers focus on corporate sectors, the current literature on the adoption of EAA for SCM in SMEs is severely underdeveloped (Hazen, Kung, Cegielski & Jones-Farme, 2014; Iyamu & Mphahlele, 2014; Ingram, 2018). According to Ghosh (2015) and Jenkin (2016), SMEs with self-leadership benefit from a positive creativity climate that leverages synergistic creativity and innovation to provide a long-term competitive advantage. As a result, SMEs should regard themselves as ideal EAA for SCM adopters since they operate in a challenging, diverse, and competitive world of business expertise.

SMEs in Capricorn District Municipality have numerous challenges, including a lack of financial viability, a lack of formal education, and a lack of technical skills. They are a wake-up call for SMEs to invest in technology infrastructure for effective SCM operations, such as insourcing, process outsourcing, and so on (Poba-Nzaou, Raymond & Fabi, 2014; Ticlo, 2018). By taking into account the economic nature of the environment in which SMEs operate, there is a need to consider issues that are critical for a better environment for EAA adoption. It consists of reliability, excellence, value, expertise, problem-solving skills, continuous improvement, support, a positive attitude, a global reach, and strong relationships that lead to optimum production within SMEs (Bowman, 2020). In today's competitive business world,

customer relationship management systems (CRMS) assist enterprises in growing by developing relationships with their customers through loyalty and customer remembrance developed for SCMS and long-term connections (Cognite, 2018).

Statement of the research problem

Increased demand-driven sales planning triggers mechanisms in other operations. This is an issue for a synchronised SCM in SMEs in satisfying increasingly high customer-service demands, which is a major concern among SME owners and has sparked interest among scholars. There are numerous questions with remarkable responses based on owner physiognomies that influence EAA adoption. As a result, many SME owners are ignorant of the nature and purpose of EAA. EAA's SCM quality is surrounded by many assumptions and forecasts, which contribute to a significant failure rate in SMEs due to inadequate SCM. This problem statement is supported by a large number of researchers. This could be an indicator that SMEs' unwillingness to adopt EAA is caused by inadequate owner physiognomies (Stok, 2018; Broughton, 2018; Hendricks, 2018). Valasseri (2019) echoes this viewpoint in a study that finds that only 95% of organisations experience challenges with the technology they have chosen to strengthen their business objectives.

Aim

The aim of this paper is to provide a conceptual theoretical framework based on owner physiognomies and incitements to the adoption of EAA in SMEs within Capricorn District Municipality, as well as to determine the extent to which it transpires.

Objective

The key objective is to examine whether the physiognomies of the owners influence the adoption of EAA in SMEs for SCM.

Literature Review

Much of the present literature on SCM focuses on the use of EAA in particular. This section summarises the literature review that was utilised to structure the variables for this survey that were included in the questionnaire. The adoption of EAA by SMEs is one of the worldwide problems that nations face. It has been discovered that there is a substantial relationship between owner physiognomies and the use of EAA for SCM operations such as insourcing, processing, and outsourcing (Smit, 2017; Herman & Stefanescu, 2017), which determine the greatest level of efficiency (Sebetci, 2019). According to the literature, SMEs are facing issues in the following areas: distribution network configuration, flexibility for access, number of participants, geographical allocation, suppliers' networks, production facilities, distribution centres, warehouses, customer relations, and distribution strategies (Nair, 2010; Stet, 2014).

This implies that without the adoption of EAA, neither SCM success nor production efficiency can be supplied. According to Hon and Lui (2016), SMEs' owners increasingly acknowledge the importance of integrating their psychographic and behavioural incitements, as well as creativity. It is thus vital for SMEs to be transformed into modern enterprises in terms of studying the environmental supply chain dynamics and comprehending how the disruption-driven ripple impact might influence the dynamics of the bullwhip effect (Dolgui, Ivanov & Rozhkv, 2019). By aligning innovation with agility, SMEs are seeing transformation in technology innovation. Furthermore, SMEs get a competitive edge in SCM by creating a statutory framework that defines all roles, responsibilities and relationships involved in programme management and information technology operations (Asetpartners, 2018). According to Chang, Lakovou and Shi (2019), a smart investment in blockchain could lower the level of uncertainty and risk associated with the use of EAA for SCM.

With the expansion of EAA, SMEs are looking for application software that will provide them with a customised and one-of-a-kind experience that will be faultless forever. Furthermore, current SMEs are the adopters looking for an EAA programme that would equip them for an effective SCM (Bawa, Buchholz, de Villiers, Corless & Kaliner, 2017). SME owners as EAA adopters: The value of EAA in SMEs is enormous, particularly in terms of smoothing application performance, high scalability and flexibility, easy integration of new features, cost savings, decreased development time, and high security (Le, 2020; Pavlenko, 2021). With the innovation-driven environment stretching far beyond traditional cyber,

regulatory, operational, and financial challenges, SMEs owners should become more technologically oriented (Briggs, Buchholz & Sharma, 2020).

One of the most interesting advances in cognitive neuroscience in recent decades, according to Spence (2020), has been the rising recognition that perception/experience is significantly more multimodal than other SMEs had realised. The implementation of EAA is dictated by dissatisfaction with the traditional approach in SCM. The major characteristics or elements that influence the adoption of EAA for SCM in SMEs are cost marginalisation through the utilisation of offshore development and total cost of ownership consideration (Schmidt, 2013). A study of perceptions of EAA adoption between EAA adopters and non-adopters indicates that perceptions of EAA aspects change with time. In this context, Gifford, Hine, Muller-Clemm and Shaw (2002) examined the relationship between the enterprise physical qualities of buildings, the perceptions of "attractive" and "pleasurable," and the subject's overall assessment, using the lens model as the framework. The results revealed that both groups based their emotional assessments on completely distinct building elements. However, SMEs are becoming more traditional in their approach to SCM, whereas SCM partners on facilities are becoming more prominent. EAA adoption: Researchers and enterprise practitioners are drawn to EAA adoption for the following reasons: simplicity, succinct but not imperceptible, standardised way of doing things, outstanding supporting tools, short feedback loops, expressiveness, and excellent third-party packages (Young, 2012). Based on cost considerations, it is believed that the adoption of EAA is an essential factor for SMEs' performance in SCM. Employee productivity exceeds the cost, business speed exceeds employee productivity, and security beats business speed (Settle, 2019). Furthermore, it has been observed that the implementation of EAA in many developed and developing economies has resulted in an increased atmosphere of customer satisfaction and has changed the way SMEs approach their internal and external activities (Ndiaye, Abdul, Ruslan & AdamNg, 2018). A well-designed enterprise architecture enables SMEs to achieve consensus among all internal and external stakeholders. This is accomplished through support planning, change facilitation, complexity management, risk reduction, and technical debt minimisation, which is the goal of every well-designed architecture (Menezes, 2020).

Physiognomies and incitements: It have been discovered that the adoption of EAA that provide the features of a well-encyclopaedic SCM in trendy, sustainable and self-regulating ways with a guaranteed by computerisation. However, Ashanti (2018) categorises twelve EAA criteria that are linked with quality work output for SCM activities in SMEs.

Application Performance Review (APR) – APR encrypted in EAA aids in SCM tasks by evaluating its performance and scalability attributes via the application's performance characteristics, which are determined by its architecture and design (Daya, 2019; Le, 2020).

Scalability Web Application (SWA) – SWA is a scalable web application encoded in a website that assists SMEs in handling any margin increase or decrease in production facilities for gradual or abrupt surge, without interfering with end-user activities and with the ability to swiftly intensify the load in SCM (Daya, 2019; Le, 2020).

Interoperability Syntactic (IS) - IS refers to a system that successfully communicates with tools that provide syntactic interoperability for formatting standards in SCM, also known as structural interoperability (Lewis, 2019).

Usability - In a study conducted by Capilla, Kazman, Romera and Carrillo (2020a), the results show that, aside from the very minor modelling and coding work, the organisation of numerous usability mechanisms appears helpful for end-users by offering compatibility of mobile systems that promote satisfaction during the engagement with the system and thus in SCM.

Reliability – SCM's reliability describes the aspect of the system responsible for the system's ability to continue operating under predetermined conditions (Tomaney, 2010). The reliability of SMEs in SCM is envisioned as a distinct field of specialisation that guarantees applications are developed to supply the essential SMEs functionality in a reliable, predictable and cost-effective manner without compromising essential features such as availability, performance and maintainability (Sha, 2020).

Availability – Availability in this context means that a highly available architecture has numerous components working together to assure uninterrupted service for a given period in SCM. Furthermore, it covers the response time to end-user queries in SCM with available systems that are connected to the

internet with high responsiveness. Also, the absence of glitches with a level of usability that does not influence SMEs operations (Jevtic, 2018).

Security Architecture Design (SAD) - SAD denotes that in modern information and communications technological systems, the level of security architecture is critical, which is controlled by architect specialists on technical elements for secure SCM (Kien, 2020). Furthermore, the robust elements of the security architecture, as well as the design of the proactive portions, rely on full and consistent design for the proactive measure that incident detection, response, and recovery will not interfere with SCM activities.

Maintainability Applications (MA) - MA suggests that EAA necessitates the upkeep and testing of standards that expedite change in order to acquire or maintain a competitive edge, making SMEs aware that a high-profile system failure could result in both lost income and failure to meet the market target in SCM (Tomany, 2020; Wayner, 2020).

Modifiability - Modification of EAA in SCM determine the system could influence a single item, which could be difficult, if not impossible, if a number of actions rely on it (Wayner, 2020). However, Mäkitalo, Taivalsaari, Kiviluoto, Mikkonen and Capilla (2020b) propose that system developers construct and reuse code modules in SCM for future changes in a systematic algorithm.

Testability - In SCM, testability for EAA denotes the level of accountability for executing tests that are measured against predetermined criteria and result in a fully functional system (Wayner, 2020).

Reusability - Reusability focuses on the possibility of using a specific component or encrypted in SCM for reuse on assets associated with EAA that scale an opportunistic design (Mäkitalo *et al.*, 2020).

Supportability - The ability of EAA and the system to give handy information for recognising and fixing problems in SCM that is carried out through enterprise operations is referred to as supportability (Settle, 2019).

Research Methodology

A quantitative survey method was developed to collect primary data in this study. A questionnaire was created and tested to ensure data accuracy and the intended results. Self-administered questionnaires were used to collect data using a Likert scale. 310 respondents were chosen using a non-probability sampling method. Questionnaire design: The questionnaire was made up of Likert scale questions, and respondents were given five options from rating scales with a range of described classifications that reflected a variety of responses. Each set of questions was created with the intention of achieving the study's research objective(s). The Likert scale worked well as a tool for framing questions, coding, and analysing data. In order for respondents to have a clear comprehension, there was no sense of ambiguity in questionnaire development.

Questionnaire development

This section of the questionnaire respondents was asked to provide information on the owners' physiognomies and incitements, as well as the actual adoption of enterprise application architecture questions. Originally, the questionnaire included eight mandatory categories, two of which were used in this publication from the Owner's Physiognomies & Incitements (table 1) as well as the actual adoption of enterprise application architecture (table 2).

Owner's physiognomies & incitements questions

The respondents were asked to express their feelings about the following aspects of owner physiognomies and incitement for adopting EAA for SCM.

| Sigma Notations | Please tick an appropriate box (✓) from 1.1 to 1.6. | Strongly Disagree (1) | Disagree (2) | Moderate (3) | Agree (4) | Strongly Agree (5) |
|-----------------|---|-----------------------|--------------|--------------|-----------|--------------------|
| 1.1) | D Demonstrate passion for being successful with the business. | (1) | (2) | (3) | (4) | (5) |
| 1.2) | Try out new ideas in the business. | (1) | (2) | (3) | (4) | (5) |
| 1.3) | Set goals and guidelines to achieve them. | (1) | (2) | (3) | (4) | (5) |
| 1.4) | Demonstrate passion for hard work. | (1) | (2) | (3) | (4) | (5) |
| 1.5) | Ignore distractions and focus on the immediate C challenges. | (1) | (2) | (3) | (4) | (5) |
| 1.6) | Demonstrate "fight back" when problems threaten. | (1) | (2) | (3) | (4) | (5) |

Table 1: Owner’s physiognomies & incitements
 Source: Author Conceptualisation

6.1.2) Actual adoption of enterprise application architecture questions

Once again, respondents were asked to voice their views on the following assertions regarding the actual adoption of EAA for SCM.

| Sigma Notations | Please tick an appropriate box (✓), from 2.1 to 2.3 | Strongly Disagree (1) | Disagree (2) | Moderate (3) | Agree (4) | Strongly Agree (5) |
|-----------------|--|-----------------------|--------------|--------------|-----------|--------------------|
| 2.1) | Information Technology improves my job satisfaction. | (1) | (2) | (3) | (4) | (5) |
| 2.2) | Information Technology supports all aspect of my job requirement. | (1) | (2) | (3) | (4) | (5) |
| 2.3) | Information Technology allows me to accomplish more work than in manual process. | (1) | (2) | (3) | (4) | (5) |
| 2.4) | Information Technology simplifies my day-to-day activities. | (1) | (2) | (3) | (4) | (5) |
| 2.5) | Information Technology highlights technical errors for me. | (1) | (2) | (3) | (4) | (5) |
| 2.6) | It makes workflow straightforward. | (1) | (2) | (3) | (4) | (5) |

Table 2: actual adoption of enterprise application architecture
 Source: Author Conceptualisation

Stability diagnostic tests

Normality test for variables

The evidence was tested by using the descriptive statistical technique for the Owner’s Physiognomies & Incitements were arranged to contribute to further statistical examination on Linear Regression.

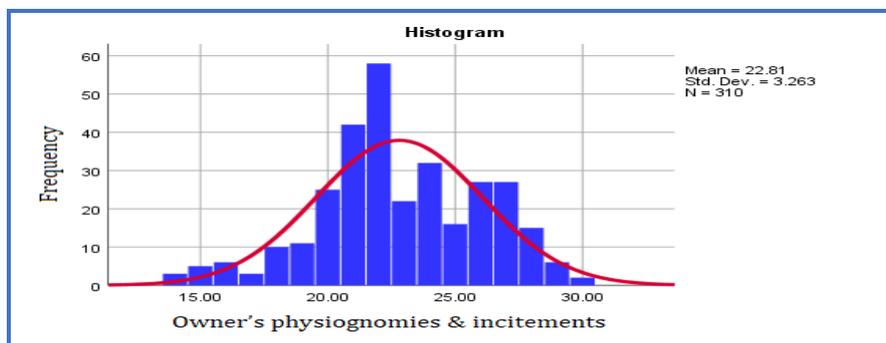


Figure 1: Normal Distribution on Owner’s Physiognomies & Incitements
 Source: Author Conceptualisation

Model. As indicated in Table 3 and Figure 1, Cauchy normal distribution is processed with a symmetric distribution with well-behaved tails. This is indicated by a mean (μ) @ 22.81, standard deviation (σ) @ 3.263 and the N @ 310. Owner's physiognomies & incitements produced a positive skewness at -.196 and Kurtosis at -.141. The standard normal distribution has a Kurtosis of zero and a negative Kurtosis indicates a "peaked" distribution and negative Kurtosis indicates a "flat" distribution. The Kurtosis figure should be near 0, and the figure of -.141 indicates that it is a normal distribution, which is slightly peaking is slightly skewed to the left. The distribution is symmetric as the μ is 0.228 and median is 0.220 *This indicates that the model provides the greatest match for homoscedasticity.*

Kolmogorov-Smirnov test for normality of owner's physiognomies & incitements

Table 3 presents the results for the Kolmogorov-Smirnov test for normality of owner's physiognomies & incitements and the results indicate that they do follow a normal distribution, $D(310) = 0.123$ which is greater than $p = 0.05$.

Table 3: Kolmogorov-Smirnov and Shapiro-Wilk Test on owner's physiognomies & incitements

| Tests of Normality | | | | | | | | | |
|---|---------------------------------|-----|------|--------------|-----|------|--------|----------------|----------|
| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | | Median | Skewed ness | Kurtosis |
| | Statistic | df | Sig. | Statistic | df | Sig. | | | |
| Owner's physiognomies & Incitements | .123 | 310 | .000 | .974 | 310 | .000 | 22.000 | .196 | -.141 |
| a. Lilliefors Significance Correction | | | | | | | | | |

Source: Author Conceptualisation

The confirmation process resulted in the conclusion that the Owner's Physiognomies & Incitements can be used for statistical examination with a Linear Regression Model for analysing the relationship between the Owner's Physiognomies & Incitements and the Actual Adoption of EAA in SMEs for SCM.

Research Findings

Pearson Correlations on owner's physiognomies & incitements and actual adoption of EAA

Table 4 demonstrates the results on correlations between owner's physiognomies & incitements and Actual Adoption of EAA. The p-value is near zero at "<.001" with the required value set at 0.05. The statistical technique "ANOVA" is used to test the hypotheses between the dependent variable, namely, Actual Adoption of EAA and the independent variable, namely, owner's physiognomies & incitements indicated in Table 1.

Table 4: Pearson Correlations on owner's physiognomies & incitements and actual adoption of EAA

| Pearson Correlations | | | |
|--|---------------------|------------------------------|--|
| | | Actual Adoption of EAA | Owner's Physiognomies & Incitements |
| Actual Adoption of EAA | Pearson Correlation | 1 | .185** |
| | Sig. (2-tailed) | | .001 |
| | N | 310 | 310 |
| Owner's Physiognomies & Incitements | Pearson Correlation | .185** | 1 |
| | Sig. (2-tailed) | .001 | |
| | N | 310 | 310 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | |

Source: Author Conceptualisation

Pearson Correlation Coefficients is .185, thus indicating that there is a positive relationship between owner's physiognomies & incitements and Actual Adoption of EAA. The findings on association suggest that, in general, there is a positive relationship between owner's physiognomies & incitements and Actual Adoption of EAA bearing the change of the sign in mind.

ANOVA on owner's physiognomies & incitements and actual adoption of EAA

Table 5 shows the ANOVA results attained for scores on owner's physiognomies & incitements and Actual Adoption of EAA. The independent variable is regarded as owner's physiognomies & incitements and the dependent variable is regarded as Actual Adoption of EAA.

Table 5: ANOVA on owner's physiognomies & incitements and actual adoption of EAA

| ANOVA ^a | | | | | | |
|--|--------------|-----------------|------------|-------------|--------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 122.708 | 1 | 122.708 | 10.925 | .001 ^b |
| | Residual | 3459.563 | 308 | 11.232 | | |
| | Total | 3582.271 | 309 | | | |
| A a. Dependent Variable: Actual Adoption of EAA | | | | | | |
| b. Predictors: (Constant), Owner's Physiognomies & Incitements | | | | | | |

Source: Author Conceptualisation

The general F-statistic is significant ($F = 10.925$, $p < .001$), thus signifying that, overall, the model accounts for a significant proportion of the variation in the adoption of EAA for SCM in SMEs. Since the exact significance level is $.001 < \alpha$ at .05 the results are statistically significant. The alternative sub- H_{a1} that; "owner's physiognomies & incitements affect the adoption of EAA for SCM in SMEs" is accepted, whilst the sub- H_{01} that; "owner's physiognomies & incitements does not affect the adoption of EAA for SCM in SMEs" is rejected.

Pearson Coefficient on Owner's Physiognomies & Incitements and Actual Adoption of AA

Table 6 presents the coefficients results for Owner's Physiognomies & Incitements and Actual Adoption of EAA. The t-test is considered for testing as both samples have similar values in the mean @ 22.81 (confirmed in figure 1: normal distribution on owner's physiognomies & incitements and table 3: Kolmogorov-Smirnov and Shapiro-Wink test on owner's physiognomies & incitements).

Table 6: Pearson coefficients on owner's physiognomies & incitements and actual adoption of EAA

| Pearson Coefficients | | | | | | | | |
|---|-------------------------------------|-----------------------------|------------|---------------------------|-------|------|-------------------------|-----|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. | Collinearity Statistics | |
| | | B | Std. Error | Beta | | | Tolerance | B |
| 1 | (Constant) | 19.486 | 1.346 | | 14.47 | 1 | | |
| | Owner's Physiognomies & Incitements | .193 | .058 | .185 | 3.327 | .001 | 1.000 | 1.0 |
| a. Dependent Variable: Actual Adoption of EAA | | | | | | | | |

Source: Author Conceptualisation

In conditions where the predicted \hat{Y} consists of Perceived Attitudes towards the Adoption of EAA and owner's physiognomies & incitements with the score = $19.486 + 0.193x$, then the t-test shows that the \hat{Y} constant $a = 19.486$ and the \hat{Y} constant $b = 0.193$ are significantly different from zero. The independent t-test could be used to determine the confidence interval of the coefficient, in case the 95% confidence interval for the t-test is [14.476, 3.327].

Linear Regression on owner's physiognomies & incitements and actual adoption of EAA

Figure 2 indicates the results on $\hat{Y} =$ assembled as Actual Adoption of EAA, where; $a =$ y-axis intercept, $b = +$ slope and x-axis intercept as owner's physiognomies & incitements. A natural progression of this work was to analyse the relationship between owner's physiognomies & incitements and actual adoption of EAA for SCM in SMEs. The R^2 value is 0.034 of the variances is being accounted for this scatter plot from the independent variable, as owner's physiognomies & incitements. The positive linear regression satisfies three assumptions on a model for best fit discussed in Figure 1. *The linear regression where; $\hat{Y} = 19.48 + 0.19x$.*

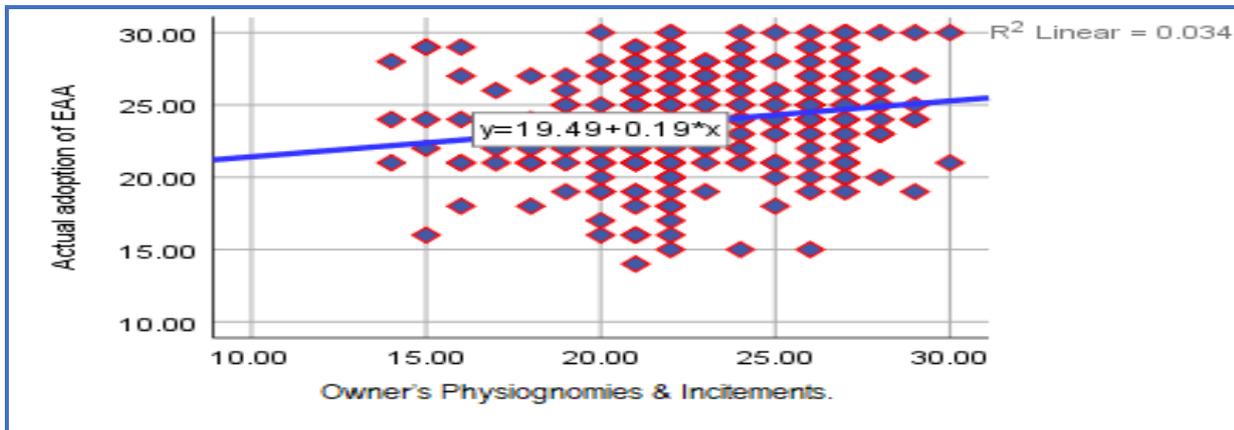


Figure 2: Linear Regression Model on owner's physiognomies & incitements and Actual Adoption of EAA

Source: Author Conceptualisation

The slope of $+0.19$ will bring same increase in \hat{Y} . The $R^2 = 0.034$ indicates that, the level of variation in the prognostic variable could be described by variation in the independent variables. Moreover, the R^2 is converted to r as; thus, $\sqrt{0.034} = 0.184 \approx 0.185$ which is confirmed in Table 4 for Pearson Correlation Coefficients. This validates that the model is adequate with positive slope and the model is of a positive fit between owner's physiognomies & incitements.

Limitations

The present study has several limitations. First, IRM is known as a leading enterprise architecture value and authorised Sparx Systems Enterprise Architect license reseller in South Africa and in the international markets, unfortunately only few SMEs will benefit from preferential procurement scores from level 2 of broad-based black economic empowerment (BBBEE) status (Sparks Systems & Enterprise Architect, 2020). Secondly, it compels SMEs to determine which techniques will be applied in practice to stimulate conformance to EAA (Foorthuis, van Steenberg, Mushkudiani, Bruls, Brinkkemper & Bos, 2020). Lastly, it is conceivable that number of SMEs with ethical practices that conform with government regulations would get an access to the adoption of EAA for SCM.

The first EA methodology called Enterprise Architecture Planning (EAP) was proposed by Spewak and Hill (1992). "EAP has its roots in IBM's BSP" (Spewak & Hill 1992, p.53)

The first EA methodology called Enterprise Architecture Planning (EAP) was proposed by Spewak and Hill (1992). "EAP has its roots in IBM's BSP" (Spewak & Hill 1992, p.53)

Conclusions

The findings of this investigation show that the Owner's Physiognomies & Incitements influence the adoption of EAA for SCM in SMEs in Capricorn District Municipality. Both psychographic and behavioural incitements have a significant impact on general perceptions and attitudes, which may stimulate the level of interest in the adoption of EAA for SCM in SMEs. Risk-averse SME owners will incur significant forfeiture in SCM unless they retract from bleeding edge and new-fangled.

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The relationship between the National Senior Certificate and the National Benchmark Test for accounting students at a South African university

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Key Words

accounting students; determinants of success; higher education; National Benchmark Test (NBT); National Senior Certificate (NSC); South Africa

Abstract

The South African accounting profession needs racial transformation. Consequently, students pursuing the chartered accountant (South Africa) (CA(SA)) designation, especially at-risk Black students, require adequate support. To be successful, the support must be driven by factors influencing students' academic performance. As prior academic performance is one such factor, this study examines the relationship between the National Senior Certificate (NSC) exams and the National Benchmark Test (NBT) for students enrolled in an accounting degree at a South African university. Due to numerous moderate and strong correlations between NSC and NBT results, without multicollinearity, it was concluded that both sets of results should be considered as factors contributing to students' academic performance. The findings highlight the need for further empirical research on NSC and NBT results as determinants of success for accounting students.

Introduction

Racial transformation of the accounting profession has become a national priority in South Africa, particularly in the recent past. Consequently, promising students from various ethnic backgrounds have been assisted within their higher education studies. Promoting equality and redressing South Africa's past injustices is imperative for the country.

Significant progress has been made in South African tertiary education in recent years, and university access has improved for Black South Africans (South African Institute of Race Relations, 2019). However, greater access has not necessarily translated into equitable and timely graduation (Neethling, 2015). The Department of Higher Education and Training (2014) uses the composite term 'Black' to refer to the racial descriptors of African, Coloured and Indian/Asian people. Along with White, these racial descriptors are used for planning, monitoring and funding in South Africa.

Identifying the factors that influence students' academic success is vital in order to assess degree applications and the allocation of available capacity to at-risk students. Students who would otherwise be deprived of the opportunity to study accounting could also be supported through innovative programme structure and the provision of additional assistance (financial and other). It is hoped that such initiatives will result in more equitable educational outcomes in the country.

The single best predictor of academic performance at every level is academic performance in the immediately preceding year of study, as confirmed by numerous studies. In South Africa, for university entrants, this means performance in the National Senior Certificate (NSC) exams—the final secondary education assessments. However, higher education institutions also use access and placement tests as a diagnostic tool to enrol students in the most appropriate programmes. In South Africa, this is the National Benchmark Test (NBT), including proficiency scores for academic literacy (AL), quantitative literacy (QL) and mathematics (MAT). Due to the unclear interpretation of these two sets of results, it is uncertain which results are most informative in predicting academic success in accounting programs, and which results indicate who will need targeted support upon entry to university. Alternatively, these results could be a repetition of each other, with one being superfluous.

This study focuses on the relationship between NSC and NBT results for students registered for an accounting degree at a South African university. The university is known for its large classes, and students who come to lectures with a diverse range of prior knowledge (Müller, Prinsloo, & du Plessis, 2007; Scott, Yeld, & Hendry, 2007). This study is motivated by three factors: (1) the dearth of research in accounting education on NSC and NBT results, (2) the contribution of the authors to the placement of university applicants in specified programmes, and (3), the desire to use both NSC and NBT results as part of the explanatory variables to consider determinants of students' academic success. Using a quantitative methodology within the framework of Biggs' 3P model, this study addressed the following two questions: (1) Is there a correlation between NSC and NBT results? (2) Is there multicollinearity between any of the NSC and NBT results?

This study commences by reviewing existing research on prior academic performance preceding entry to university. The research method is then discussed, followed by the results, conclusion and study limitations. The study concludes with recommendations for future research.

Literature review

Biggs' 3P Model

Numerous factors influence students' success in tertiary education. Biggs' 3P Model of student learning describes three sets of factors affecting student performance: (i) presage, (ii) process and (iii) product or performance (Biggs, 1985, 1987). This model has been often applied in accounting education (Davidson, 2002; Papageorgiou, 2017; Pullen, Toerien, & Anthony, 2015). Presage factors are external to the learning environment. They include personal factors (e.g., intelligence, background or demographics) and situational factors (e.g., subject content or course structure). Process factors reflect the student's study approach (surface, achieving or deep approach). Performance or product factors can be cognitive (knowledge and intellect) or affective (how the student experiences learning) (Biggs, 1985).

Biggs (1987) places greatest emphasis on the learning approach of students, although he does acknowledge that presage factors can also strongly affect the development of learning approach. Therefore, factors such as age, language, race (Papageorgiou, 2017), locus of control (Carpenter & Kunaka, 2018) and self-efficacy (Carpenter & Shamsoodien, 2021; Shamsoodien & Carpenter, 2020) determine the students' learning approach. This, in turn, influences their academic performance, both in public and private universities in South Africa (Carpenter & Kraus, 2020).

Academic performance

Student endogenous factors and their effect on academic performance at an undergraduate level have been researched both in South Africa and internationally. Factors identified include age, gender, race, home language, whether accounting was selected as a Grade 12 subject, performance in Grade 12 Accounting, performance in Grade 12 Mathematics and overall Grade 12 performance. Grade 12 results are the NSC results.

Numerous studies have reported that students who took Accounting prior to university outperformed those who studied it for the first time at university (Bokana & Tewari, 2014; Papageorgiou, 2017; Papageorgiou & Carpenter, 2019; Yanbarisova, 2014). Some international studies support this finding (Byrne & Flood, 2008), while others contradict it (Douglas, 2017; Koh & Koh, 1999). This advantage, however, dissipates after the first year of undergraduate study, both in South Africa (Jansen & de Villiers, 2016; Papageorgiou & Halabi, 2014) and internationally (Doran, Bouillon, & Smith, 1991). This could be due to the more advanced nature of second- and third-year accounting courses.

NSC mathematics performance has also been positively correlated with South African university accounting course performance (Bokana & Tewari, 2014; Papageorgiou & Halabi, 2014; Swart & Becker, 2014; Tewari, 2015). This is supported by international studies in the UK (Guney, 2009), Singapore (Koh & Koh, 1999) and Malaysia (Ismail *et al.*, 2017). Like with accounting, the relationship wanes the further the student progresses in their studies—both in the final undergraduate year and at postgraduate level (Jansen & de Villiers, 2016; Pullen *et al.*, 2015).

Overall performance in Grade 12 (often measured by grade point average (GPA)) is strongly correlated with academic success at all levels of tertiary education (Bokana & Tewari, 2014; Jansen & De Villiers, 2016; Pullen *et al.*, 2015). van Rooy and Coetzee-van Rooy (2015) clarify that these NSC results are

a strong predictor of success at university only for strong students (those who achieved an average of at least 65%). The prediction value is much weaker for students who achieve an average of less than 65%; some of these students go on to perform well at university while others fail. This may be due to more qualitative factors—such as grit, motivation and maturity—playing a larger role in these students' success.

A large body of research has affirmed that the single best predictor of academic performance at every level is academic performance in the preceding year of study. Studies have confirmed this in South African undergraduate courses (Jansen & de Villiers, 2016; Papageorgiou & Halabi, 2014; Swart & Becker, 2014), postgraduate courses (Pullen *et al.*, 2015; Steenkamp, 2014; Swart & Becker, 2014) and professional exams (Dehrmann, 2013; van Wyk, 2011). The strong link between prior performance and academic success may be due to the hierarchical knowledge structure applicable in accounting (Myers, 2017), as confirmed by international research at the university level (Archambault & Archambault, 2016; Byrne & Flood, 2008; Doran *et al.*, 1991; Koh & Koh, 1999; Maksy & Wagaman, 2016) and professional exam level (Douglas, 2017; Rodrigues, Pinho, Bugarim, Craig, & Machado, 2018).

National Benchmark Test

Assessing students' academic preparedness before admission to university ensures appropriate placement and a definite chance for academic success (Ndebele *et al.*, 2013). South African higher education institutions use the NBT as a diagnostic tool to enrol students in the most appropriate qualification and to determine whether additional support is required to aid academic success (Centre for Educational Testing for Access and Placement, 2018). The NBT represents the point at which students are most likely to be prepared for university. The test classifies the results into three categories—basic, intermediate or proficient.

The NBT evaluates students' proficiency in AL, QL and MAT. AL is the students' capacity to engage successfully with the demands of academic study, and includes learning, comprehension, application and synthesis of new knowledge. QL is the students' ability to identify and solve problems in quantitative situations relevant to higher education study. MAT assesses students' competence in more complex mathematical topics (Ndebele *et al.*, 2013; Ogbonnaya & Awuah, 2019).

The body of research on NSC and NBT results in South Africa can be split into two groups: (1) studies that look at the contribution of NBT and NSC to students' academic performance and (2) studies that look at how the former is affected by a support or intervention module, introduced due to poor NBT results.

There is contrasting evidence on NBT results as a factor influencing tertiary education performance across a broad spectrum of disciplines. In first-year economics, it was asserted that for students who achieved NSC mathematics scores close to the minimum university entrance requirement, the NBT scores should carry more weight to gauge the student's true potential (Rankin, Schoer, Sebastiao, & Van Walbeek, 2012). However, in a first-year mathematics course, neither the NBT MAT nor the NSC results were informative independent variables of success (Mahlobo, 2015).

Looking further afield, in physiology it was found that excellent performance in NSC English, life sciences and the NBT QL were significant indicators of academic achievement, whereas mathematics and physical sciences were not (Allers, Hay, & Janse van Rensburg, 2016). A more recent study on first-year medical students' academic success found that even though the NBT MAT was not a significant predictor, the combination of NSC and NBT results had higher explanatory power (Mabizela & George, 2020).

Most studies on support or intervention modules, coupled with NSC and/or NBT results, conclude favourably on the effect of such interventions. A study at one South African university found that attending university academic literacy support modules was the most substantial independent variable in academic success in the first and second year, while the NBT AL results were positively correlated with other placement test results, signifying that only one of these tests should be used (van Rooy & Coetzee-van Rooy, 2015).

There are sometimes differing results between the NSC English results and students' NBT AL performance, indicating that students may not be able to cope with the tertiary-level language of instruction (Cliff, 2014). Students who were classified as 'basic' and 'intermediate' in the NBT tests struggled with their studies in the absence of explicit AL interventions. This is because they found it

difficult to understand the contextualised AL demands of reading and reasoning in higher education (Cliff, 2015).

In a psychology course, there was a definite improvement in performance for students on a QL intervention course whose NBT QL performance scores were in the lower proficiency bands (Mutakwa & Mhakure, 2019).

Concluding remarks on literature

Academic performance in prior years of study, including the NSC results, is a good predictor of academic performance at university. Admissions that rely on NSC results alone may, on the one hand, exclude students with academic potential, while on the other hand, they may enrol students who are not sufficiently prepared. Including NBT results may help to identify students who are adequately prepared for university. Support and intervention modules clearly assist students. However, a drawback of both the NSC and NBT results is that they focus on current competencies, rather than future potential. The vast majority of studies in this area focus on first-year performance or progression, and no studies look at the impact further down the line, for example, time to graduation (Carpenter & Roos, 2020).

What is clearly lacking in the research is a focus on accounting students. Before considering whether NSC and NBT results are good predictors of academic success for this sample of students, it is helpful to first consider the relationship between the different results. Therefore, the correlation of NSC and NBT results for accounting students must be tested, as well as any potential multicollinearity, before further testing in the form of a regression can be conducted.

Methodology

This quantitative study analysed data for 1 120 students enrolled for the three-year BCom (Chartered Accountant) and four-year BCom (Chartered Accountant – extended) programmes at the University of Cape Town (UCT), South Africa for 2013 to 2016. The data was obtained from the UCT Institutional Planning Department after ethical clearance was provided. The data was analysed using Stata v16.

A Pearson's correlation test was run to assess the relationship between the three NSC results (Accounting, Mathematics and English) that are either significant from the literature or are part of the degree's entrance requirements, and the three NBT results (AL, QL and MAT). NSC GPA was not used as the data was unavailable. The NBT results were reported on a continuous scale rather than proficiency level. Before interpreting the results, the data was examined for the assumptions of Pearson's correlation (continuous variables, linear relationship, no significant outliers, and approximately normally distributed), which were all met.

The sample comprised 730 of the 1 120 students. Of the 390 students who were removed, 1 was an erroneous record, 19 did not have NBT results, 256 were not South African, and 114 did not take Accounting as a school subject.

Results and discussion

In the discussion, only statistically significant correlations are mentioned. It should be noted that weak, moderate and strong correlation equates to small, medium and large effect sizes. In Table 1 it can be seen that there was a moderate positive correlation between all NSC results; NSC Mathematics and NSC Accounting, $r(728)=.439$, $p<0.0001$, NSC Mathematics and NSC English, $r(728)=.2087$, $p<0.0001$, and NSC Accounting and NSC English, $r(728)=.2344$, $p<0.0001$. This is in line with expectations, as students who perform well in one subject, and who gain entry to university normally perform well in the other subjects too.

Table 1: Pearson's correlation matrix of the variables in the sample

| | NSC Acc (n=730) | NSC Maths (n=730) | NCS English (n=730) | NBT AL (n=730) | NBT QL (n=730) | NBT MAT (n=730) |
|-------------|--------------------|----------------------|------------------------|-------------------|-------------------|--------------------|
| NSC Acc | 1.0000 | | | | | |
| NSC Maths | 0.4390 0.0000* | 1.0000 | | | | |
| NCS English | 0.2344 0.0000* | 0.2087 0.0000* | 1.0000 | | | |
| NBT AL | -0.0005 0.9896 | 0.0652 0.0785 | 0.3567 0.0000* | 1.0000 | | |
| NBT QL | 0.0584 0.1147 | 0.3419 0.0000* | 0.1883 0.0000* | 0.4832 0.0000* | 1.0000 | |
| NBT MAT | 0.1721 0.0000* | 0.6772 0.0000* | 0.1989 0.0000* | 0.2505 0.0000* | 0.5389 0.0000* | 1.0000 |

* $p < 0.0001$

Similarly, as per the data in Table 1, there was a moderate positive correlation between the NBT results, with the exception of NBT MAT and NBT QL, $r(728) = .5389$, $p < 0.0001$, where the correlation was strong. As both the MAT and QL NBT test numeracy, this result was also not unexpected. What is interesting is that there was only a moderate positive correlation between NBT AL and NCS English, $r(728) = .3567$, $p < 0.0001$, but limited correlation with the other NSC results. As the NBT AL tests academic reading and reasoning abilities, assessing students' capabilities of engaging successfully with higher education language demands (Cliff, 2015), the association with NSC English is encouraging.

There was a moderate positive correlation between both NBT QL and NCS Mathematics ($r(728) = .3419$, $p < 0.0001$) and surprisingly, NCS English ($r(728) = .1883$, $p < 0.0001$). It may be that the problem-solving nature of the NBT QL is similar to the skills required in NSC English. The lack of significant correlation between both NBT AL and QL and NSC Accounting stands out, as NSC Accounting is a strong predictor of academic performance for accounting students at university and the NBTs are supposed to test students' ability to cope with tertiary education. This could be explained by the NSC being norm-referenced while the NBT is criterion-referenced (Prince, 2017). Thus, the interpretation of the results varies. This is because norm-referenced tests differ from criterion-referenced tests in terms of purpose, content selection, and nature of scoring (Bond, 1996). The purpose of the NSC is to sort and rank students. In contrast, the NBT aims to demonstrate students' performance in clearly defined domains that require mastery (Bond, 1996; Foxcroft & Roodt, 2013).

The positive correlation between NBT MAT and the NSC results was moderate for NSC Accounting ($r(728) = .1721$, $p < 0.0001$) and English ($r(728) = .1989$, $p < 0.0001$), but strong for Mathematics ($r(728) = .6772$, $p < 0.0001$). Once again, the lack of a strong correlation with accounting needs further investigation.

Therefore, the numerous correlations indicate that all NSC and NBT results should be considered as presage factors contributing to students' learning approaches. Consequently, they may impact academic performance.

While assessing multicollinearity is usually performed as part of a regression model, the motivation of this study to use both NSC and NBT results as part of explanatory variables of students' academic success warrants further investigation to ascertain whether two or more of these variables are highly linearly related. The strong correlation between NSC Mathematics and NBT MAT, and between NBT MAT and NBT QL may affect the reliability of a regression model in future research. Table 2 provides the multicollinearity assessment. All variance inflation factors (VIF) are below 5, indicating that the different results are measuring different aspects of students' ability and potential, and all variables can be used for a regression model.

Table 2: Collinearity diagnostics

| Variable | VIF | SQRT VIF | Tolerance | R ² |
|-------------|------|----------|-----------|----------------|
| NSC Acc | 1.33 | 1.15 | 0.7505 | 0.2495 |
| NSC Maths | 2.36 | 1.54 | 0.4230 | 0.5770 |
| NCS English | 1.24 | 1.11 | 0.8075 | 0.1925 |
| NBT AL | 1.50 | 1.23 | 0.6664 | 0.3336 |
| NBT QL | 1.73 | 1.32 | 0.5776 | 0.4224 |
| NBT MAT | 2.38 | 1.54 | 0.4201 | 0.5799 |
| Mean VIF | 1.76 | | | |

Conclusion

This study highlighted the importance of understanding factors affecting accounting students' academic success. To develop targeted interventions to assist students, it is paramount to first identify the factors of academic success. Biggs' 3P model demonstrates that many presage factors affect academic performance, including age, gender, race, language and prior academic results.

In South Africa, prior academic results for university constitute both secondary school-leaving results, the NSC results, and the placement test—the NBT. The NSC results relevant to accounting students include English, Mathematics and Accounting, while the three NBT domains are AL, QL and MAT.

This study investigated the relationship between NSC and NBT results. The two research questions of whether correlation and multicollinearity exist between the results were answered. The findings indicated numerous moderate and strong correlations between the many NSC and NBT pairings. Therefore, these could be presage factors that contribute to our understanding of students' academic success. While the two strong correlations may indicate redundancy, that is, the results are measuring the same thing, multicollinearity was not found.

The results of this study may guide lecturers when considering admission requirements for university. Even though there are many other researched factors that affect students' academic performance, such factors are difficult to measure, notably students' attitudes, strategies, skills and behaviours, which cannot be ascertained through grading, scores or standardised testing (Fook & Sidhu, 2015; York, Gibson, & Rankin, 2015). Unfortunately, there are no assurances of academic success because each student is different, and brings with them, and is exposed to, their own unique experiences.

Limitations and areas for future research

The scope of this study is limited to a correlation test. The next clear step is to test the impact of the NSC and NBT results on students' academic performance. Thereafter, the significant NSC and NBT results should be included in a regression with the other researched significant factors contributing to academic success, and their impact should then be investigated.

Other limitations include the study's focus on one university in South Africa. Consequently, the results considered are only a part of other factors affecting students' academic performance.

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How to Measure the Performance of Social Innovation? Case Study of Hungarian Social Cooperatives

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Keywords

Balanced Scorecard, Controlling, Human Resource Management, Social innovation, social cooperatives

Abstract

Innovation is a key element of economic development and a key factor in social processes. Technological and economic innovations cannot respond to all social challenges. However, innovation - the search for new and innovative solutions - needs to be interpreted more broadly than before. In line with social changes, the European Union pays more attention to the context of social innovation. The social enterprises play a vital role in modern societies. The subject of our study is social cooperatives, which are a type of social enterprise. The social cooperatives offer an opportunity to improve the employment skills. However, the management of this enterprises faces several dilemmas how can build up an effective control system of a social enterprises in Central-Europe. As our questionnaire stated, the major problem of social cooperative is the quality of available labour force. This paper focuses the applicability of the traditional Balanced Scorecard system to the special needs of a social cooperative. Here one area of the Balances Scorecard will be highlighted – the Human Resource management and how the tools can be effectively adapted to the social cooperatives. A report system and a ratio analysis tool are developed to help the work of social cooperative managers.

The focus of this paper research question how can improve the monitoring of Human Resource Management in social enterprises like social cooperatives.

In the introduction part of this paper the importance of social innovation is emphasized, and a brief introduction to the development of controlling tools is provided. Next, part of our broader questionnaire is presented to highlight the importance of Human Resource Management in the Hungarian social cooperatives. In the discussion part a special BSC is presented which is based on Bull's social enterprise Business Scorecard system. The Human Resouce Management should consider the regulatory requirements of granting authority, so these are briefly introduced. Finally, some indicators and tables are presented which can help the Human Resource Management in a social innovation enterprise.

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Introduction and literature overview

1.1. The special features of social enterprises

The primary economy generally offers little opportunity (neither the market sector nor budget organizations forced to lay off staff) to reduce the long-term unemployment. The core reason of longstanding jobless status is mostly the lack of marketable skills or the inappropriate location of the potential employees. Therefore, non-profit organizations can help to find a solution for this problem. One option may be to support the employment initiatives of non-profit organizations job creation outside the mainstream of the labour market.

Emmerij (1994) highlighted the importance of social care and a novel interpretation of it. Solidarity thinking, novel work and ethical life appeared as key concepts in his study, and he also considered rethinking the concept of work accepted.

According to Frey (2007), "we see local initiatives as part of the social economy that aim to integrate hard-to-place people into the world of work by offering them employment, skills development and counselling." The basis of the social economy is significant social work is not used in the domestic sense.

Comparison of social innovation and formal economy

| Viewpoints | Social innovation | Formal economy |
|--|--|-------------------------------------|
| The purpose of the economy | Meeting needs | Economic growth |
| Work motivation | The economy is not an end in itself | Only profit and growth |
| Function of work | Diversity of motives, incentives, and goals | The work tool, respectively. target |
| The nature of the work | Work is a natural way of being | The economic content of the work |
| Independence of the economy | The primacy of the social content of work | prioritization |
| Development of producer-consumer roles | Economic activity is not independent, it is intertwined with social conditions | Economic activity |
| The presence of utilitarianism | The producer is also a consumer | independent, independent subsystem |
| Systems of interest | A sense of counting and fairness is typical | Producer and consumer |
| Degree of solidarity | Community interest first | divorce |

Source: based on Csoba (2007)

A comparison of Polanyi's substantive economy with the formal economy sheds light on many interesting differences. The social economy is closer to Polányi's idea than the formal economy (Table 1). In the substantive economy, the community interest and the social benefits of work are of paramount importance.

The basic value of the social innovations is that it carries out its activities not for the benefit of the individual, but for the benefit of the community, it seeks to promote the development of communities organized on a territorial basis or along common interests. People in the social economy work together for the common good. In the social economy, social enterprises and cooperatives are significant. Social enterprises serve the community, and their goal is not to maximize profits, the target group is usually the long-term unemployed. In Hungary, the social land program can be considered being a social enterprise nature. (Siposné, 2020; Süveges, 2019)

1.2. Development of controlling tools from financial statement analysis to Balanced Scorecard

Financial statements are a structured representation of the financial position and financial performance of an entity. The objective of general-purpose financial statements is to provide information about the financial position, financial performance and cash flows of an entity that is useful to a wide range of users in making economic decisions.

During the analysis of the balance sheet, we can draw conclusions about the property and financial state of the enterprise, and from the cash-flow about its financial state. (Fenyves et al, 2018)

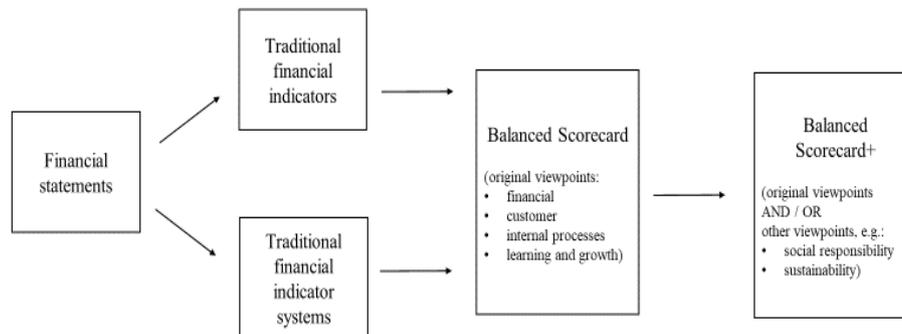
In addition to individual financial indicators, we can also use indicator systems. One of the most popular indicator systems is the Du Pont system. It is based on the idea that non-profit -- as an absolute indicator -- is in the centre, but the Return on Investment (ROI) -- as a relative value.

The financial statements' data are typically aggregated data. These highly summarized data give an overall picture of the company's management. They help us to see the problems, and to know where to look for the source of the problems, but it does not give answers for the causes of problems.

Despite the criticism of the use of traditional financial indicators enjoy a great popularity. Their advantages are the simplicity, the availability, and the cheapness. However, their application based on the literatures' recommendation have dangers. (Brealey et al., 2011)

Nowadays the economic environment of companies has significantly changed: the former permanence was replaced by variability, marketing has come into the focus of operation instead of production, and the knowledge-focused approach has appeared beside the capital-centred approach. (Veresné Somosi, 2010)

From Financial Indicators to Balanced Scorecard



Source: own editing, based on Musinszki and Süveges, 2019

In today's highly competitive environment the financial indicators alone are not able to give direction for the future; typically, they can give a view about some actions of the past, and so are retrospective, post factum indicators. In recognition of the changes, Robert S. Kaplan and David P. Norton developed a balanced, strategy-based indicator system. Both financial and non-financial indicators need to be reflected in the benchmark. The balance between them needs to be created and they need to be united in a complex indicator system. This is achieved by the Balanced Scorecard (BSC). The viewpoints of the basic model - financial, customer, internal processes, learning and growth

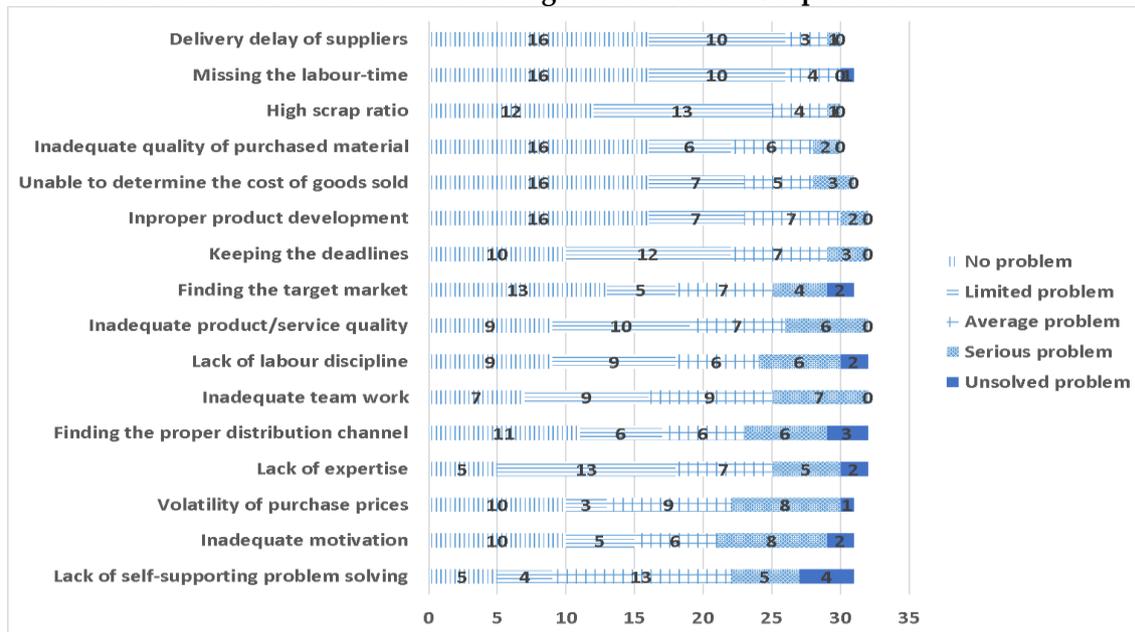
However, the basic model was not regarded as a definite model by the model creators. Over the last two decades different types of the basic model have been revealed taking different factors into consideration. The number of viewpoints has expanded like the supplier, the future perspective, the social responsibility viewpoints. (Molnár-Horváth, 2017; Artiach et.al, 2010)

Managerial problems of social cooperative

One of the issues what we walked around in a questionnaire was the managerial problems of social cooperatives. The question was the following: "Please rank by importance of the following problems in the management of social cooperative" 72 social cooperative managers were asked from region of South-Transdanubia, Southern Plain, and Northern Plain.

Sixteen potential sources of managerial problems were listed, and the respondents were asked to rank the problems by their seriousness in the economic management of their organisation. The answers are presented in figure 2.

Significance of Economic Problems in the Management of Social Cooperatives



Source: Own editing

The respondents evaluate the importance of each of the sources at a 5 points Likert-scale. (No problem – 1; limited problem – 2; average problem – 3; serious problem – 4 and unsolved problem – 5) The weighted average of the answers was calculated, where the weights were the number of answers in each category. To calculate the ranking, we took the weighted average of the total answers and ranked them in ascending order, so the less important problem is at the top, while the most important one is at the bottom.

If we look at the rank of the problem, the most serious problems are caused by the improper work force. Lack of self-supporting problem solving – first on the list, Inadequate motivation – second on the list, lack of expertise – fourth on the list, inadequate teamwork – sixth on the list, lack of labour discipline – seventh on the list. Almost every aspect of the work force is critical except of the labour-time which is a negligible problem. It is no wonder, the workers are paid after their working hours regardless to their performance. The condition of granting state subsidy is the employment of the dedicated employees, so if the social cooperatives dismiss an employee, a new one should be taken. Considering the fact, that these social cooperatives are mostly operating in small settlements (see table 2), to find new employees replacing the improper ones are very hard task.

The main aim of the state subsidy is to help the people to transfer from the long-lasting unemployment or public work status to a marketable employment. But the answers to this question indicate, that this transformation is not an easy job. To improve the quality of available work force requires the constant supervision of the management and the targeted training of the employees to satisfy the labour market requirements.

The respondents find the second main problem group in the improper marketing (find the proper distribution channel – ranked at 5th biggest, problem of 16, inadequate product/service quality – ranked at 8th, finding the target market – ranked at 9th, improper product development – ranked at 11th). The social cooperatives mostly work up local raw materials and selling them in short distance markets. Considering the fact, that they are new, small organisations (see on table 2), their brand strength is very limited. But they cannot compete with prices, because the cost of operation is high due to the improper work force and the limited size of production. To break out from this trap requires proper business cases and perfect implementation of business plans.

The next problem circle related to the uncertainty of purchase (volatility of purchase prices – ranked at 3rd biggest problem). The other problems relating to the purchase are far less important. (Reliability of purchase quality – 13th, delivery delay of suppliers – last one). The quality management of internal

processes (keeping the deadlines – 10th, unable to determine the cost of goods sold – 12th, high scrap ratio – 14th) is less important.

To sum up our result, the far most important problem of the management of social cooperatives is the improper quality of labour force. Almost every aspect related to human resource management were considered as critical factor. The marketing problems are also important, the issues related to the internal processes and purchase are less significant.

Discussion – traditional Balanced Scorecard, Balanced Scorecard for Social Enterprises, Balanced Scorecard for Hungarian social cooperatives

The main line of our research, how the managers of social cooperatives can use the databases available at their organization to make proper decisions. The framework of the structured usage of databases worked out by Kaplan and Norton (Kaplan and Norton, 1992) and it is called to Balanced Scorecard System (further BSC). The viewpoints of the basic model are the financial, the customer, the internal processes, and the learning and growth viewpoint.

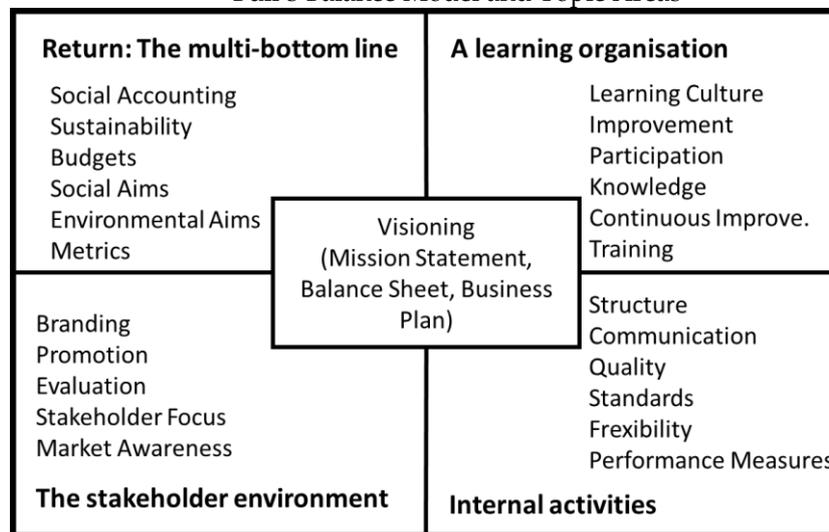
Bull’s paper analysed the results of 30 pilot social enterprises utilizing the BSC system. The paper concluded that highlighting both strengths and areas where greater support may be required would be a great help for these enterprises. (Bull, 2006)

He stated that the social enterprises general strengths by his investigation is the learning perspective. (e.g., training and development, participative decision-making and personal development cultures) The other strong area is the vision and strategy creation ability.

The weaknesses are the low level of management system from the accounting to the quality standards. The reason is the shortage of resources like financial literacy, professional skills, and moral hazard.

Bull also modified the original BSC model to social enterprises by modifying the four perspectives into: multi-bottom line (dealing with synthetic assessment of financial, environmental, and social results), stakeholders’ environment, internal activities (related to structure, communication, quality, etc.), and learning organization (dealing with training and knowledge management).

Bull’s Balance Model and Topic Areas



Source: Bull, 2006

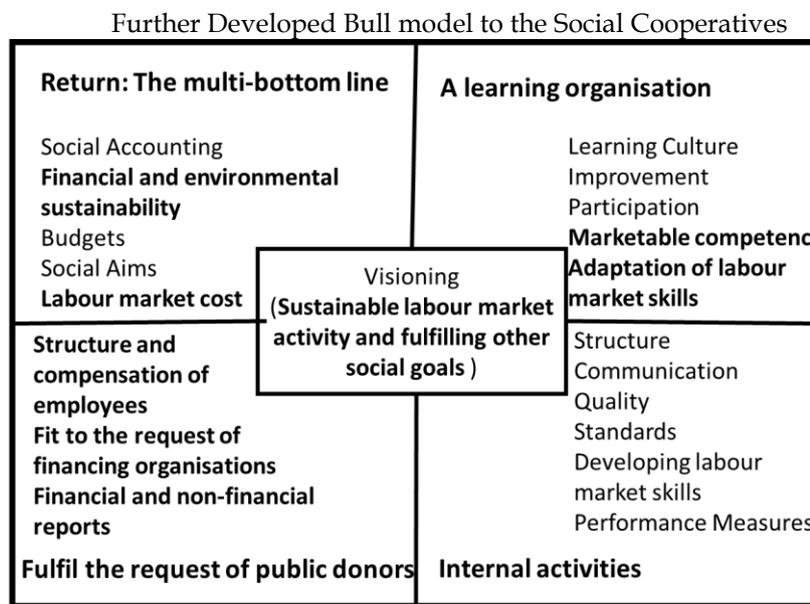
By our review, the main problem of social cooperatives is related to human resources. (Kocziszky et al., 2017) The monitoring of this problem is treated by the human resource and learning perspective of BSC. The key point of the learning perspective is: How can the employees and the management treat the challenges of the continuously changing economic environment, how quick is the implementation of the proper answers?

The key point of the customer perspective is: How do customers judge the performance of the organization? When designing a customer perspective, it is necessary to identify the customers, market segments where the organization wants to compete. Now the focus is on the learning organisation perspective.

One of the missions of the social enterprises is to help their member to develop and improve the important labour market abilities. Since in the learning organization perspective we inserted new aspects which emphasize the improvement of the competitiveness of the labour force. This part is considered as the most important part of the BSC, because the success of improving the human resource factors will improve the financial perspective.

The stakeholder environment was dramatically restructured. Instead of it we place the requirements of the grantor and regulator public institutions. Most of the social enterprises depends on public funds, so the enterprises should meet the criteria of the state and European funds. The available state funds can be numerous. Especially in the agriculture and country development there are several opportunities. (Olajos, 2020)

Figure 4 shows the result of our considerations. The suggested modification in the original model is bolded.



Source: Bozsik et al, 2019

In our point we highlight only the learning organisation perspective, which is important in point of Human Resource Management.

The labour market cost is essential, because the operating state subsidy can cover 50-100% of this expense. And replacing the state subsidy with own revenue is the key success indicator of the social cooperative. The proposed indicator here is the operating state subsidy/total labour cost - which should be reduced over time. Other indicator can be the operating state subsidy/operating profit. If the ratio is less than one, the organisation can be considered as a sustainable organisation, because it is able to survive without the operating state subsidy. (Lipták, 2017)

The above indicators are used to measure the result of the operations, but they are unable to measure the reasons of the success or failure. From the questionnaire you can see that the major problem is the quality of available work force. So, the improvement of the human resource by learning and by motivating is essential. The upper right quarter of our proposed BSC related with issue.

The marketable competence can be measured by several indicators, but they are industry specific ones. Each industry requires special features. For manufacturing enterprises, the proper quality of craftsmen can be regularly tested, and the essential training program should be introduced. Here the

proposed indicators are the ratio of skilled and unskilled labour force. The successful completion of vocational training programs is also worth measuring. To improve the teamwork and the motivation independent projects should be launched with the management of a team leader. The goal and reward of these projects should be specifically determined, and their continuous monitoring is required.

Regulatory framework of the Human Resource Management in a Hungarian Social Cooperatives

The importance of human factor is vital in the operation of any enterprise. The Human Resource Management is not else than the implementation of traditional controlling methods (e.g., goal setting, planning, plan-fact analysis, corrective actions). The main aim of a general Human Resource Management is to give a real, transparent, actual overview on the staff's employment skills and to give advice how to face the different challenges like recruiting, career planning, dismissing, employee satisfaction. The financing issues are also part of this job - payroll calculation, working out material incentives, efficiency analysis of labour force.

Human Resource Management should consider the regulatory environment - the Hungarian social cooperatives should comply not only with the general accounting rules, but also the special requirements of the granting authority who wants to monitor the activity of the management.

The social cooperatives can be established by the Act on Cooperatives (2006/X.) The special rules of social cooperatives are determined by the government order 141/2016. An application was written out for supporting the creating social cooperatives called „Focus programme for promoting social cooperatives with local government membership”. (Fókuszban ..., 2016)

Most of the social cooperatives are established to utilise the opportunities offered by the Focus programme. The condition of this application was that at least two of members should be earlier public worker, and the employees should be former unemployed, student or pupil. (Katonáné et al., 2017) The requirements of the application related to the Human Resource Management were the followings:

The social cooperatives should ensure new and long-term employment up to 2020 for those, who were former unemployed, or public workers.

The social cooperatives can apply for a subsidy up to 7,5 million forint/annum/person (approx. 20 400 euro) to cover the gross wage and social contribution tax. In the first year the sum of subsidy can reach the 100% of this amount, in the second year it decreased to 90%, in the third year to 80%.

One project manager can receive a monthly payment up to the twice of the minimal wage + its contribution tax and travelling cost from this subsidy.

At least two members of the social cooperatives should take part a social manager training, and annually at least 6 members should attend in a two-day community building training.

Every half a year the social cooperatives can require advisors from one of the following areas (Labour Law, Finance, Sustainability or Marketing Management), and annually it can be supplied with consultant in field of organisational development or rationalization or Human Resources Management. These external experts and the trainings are financed by the supervisory authority called OFA (National Employment Fund).

Besides this it can be applied for additional and optional advisory support like technical advisory work for implementing investments and equipment purchase, commercial activities.

To monitor the activity of the social cooperatives the supervisory authority also requires regular reports. Some of them are also related to the Human Resource Management. These are the followings:

Monthly report on the number of employment (in- and outgoing staff)

Quarterly report on the professional progress of employee taking part in various development programmes.

Quarterly report on involvement of external advisors (goal, task, evaluation of success)

Offered controlling solutions and indicators

To meet the regulatory framework, the social cooperatives require carefully planning of employment. The managers should consider meeting the requirements of application during the decision making. The level of employment is important condition of granting subsidies, so more emphasis is needed to develop the skills and attitude of existing labour force rather replacing them with more motivated and skilled

ones. The regular training programmes and the acquirement of foreign experts also supports this approach.

The base and starting point of any budget process is the personal file which need to be updated for each of the employee. The proposed content of this file is in tables below:

Descriptive Data of Employee:

| Description | Data |
|-----------------------|------|
| Name: | |
| Tax number: | |
| Sex: | |
| Position: | |
| Graduation: | |
| Professional skills: | |
| Special abilities: | |
| Family status: | |
| Other tax allowances: | |
| Health status: | |
| Date of recruitment: | |

Source: own editing

The data on family status and health status is not only important, because it helps characterise the employees, but also important information to acquire the tax allowances in personal tax. The other tax allowances regard mainly to the social contribution tax allowances.

Besides the qualitative information, information about the financial incentives is also worth to record. We need them to meet the data service requirements of the authorities and to complete the tax declarations.

Outgoing Payments and Incentives

| Payroll/Sick payment/Benefits in kind | | | | |
|---------------------------------------|---------------------------|--------|---------------------|-------|
| Period | Length of time (in month) | Salary | Social contribution | Total |
| | | | | |
| | | | | |

Source: own editing

Table 3 summarises the content of three tables, whose purpose can be read in the headings. We should separate the salaries from the benefits in kind and sick payment, while their taxation is different.

The third element of the personal file or record is the information about the employee's personal development. Its structure is below:

Record on Personal Development

| Personal development | | | | |
|----------------------|------------------|------------|---------------|------------|
| Date | Type of training | Graduation | Potential use | Actual use |
| | | | | |
| | | | | |

Source: own editing

The second input of the Human Resource Controlling is the strategic plan of the social cooperatives. In budgeting the management should make decisions on the personal development of the employees and

on the application for external experts. If these strategic decisions are made, the management can budget and monitor the Human Resource Activity by using the following tables.

Labor Cost Budget

| Labour cost budget | | Month | | | Total | | | | |
|---------------------|------------|---------|------|----------|-------|----|----|----|-------|
| | | January | | December | Q1 | Q2 | Q3 | Q4 | Total |
| Salary | Budget | | | | | | | | |
| | Actual | | | | | | | | |
| | Difference | | | | | | | | |
| Social contribution | Budget | | | | | | | | |
| | Actual | | | | | | | | |
| | Difference | | | | | | | | |
| Sick payment | Budget | | | | | | | | |
| | Actual | | | | | | | | |
| | Difference | | | | | | | | |
| Benefits in kind | Budget | | | | | | | | |
| | Actual | | | | | | | | |
| | Difference | | | | | | | | |
| Total | Budget | | | | | | | | |
| | Actual | | | | | | | | |
| | Difference | | | | | | | | |

Source: own editing

Table 5 is simply an aggregation of the financial outgoing part of the personal files. In the beginning of the year the management budgets the future payments and compares with the actual payments. The figures are aggregated quarterly (see Q1, Q2, Q3, Q4) and annually. The quarterly aggregation is necessary to complete the quarterly report to the supervisory authority.

The table can be extended with the source of labour cost (e.g., amount of state subsidy and own source).

Budget on Personal Development

| Personal development | | Q1 | Q2 | Q3 | Q4 | Total |
|------------------------------|------------|----|----|----|----|-------|
| Social management training | Budget | | | | | |
| | Actual | | | | | |
| | Difference | | | | | |
| Community building programme | Budget | | | | | |
| | Actual | | | | | |
| | Difference | | | | | |
| Other occasions | Budget | | | | | |
| | Actual | | | | | |
| | Difference | | | | | |
| Total | Budget | | | | | |
| | Actual | | | | | |
| | Difference | | | | | |

Source: own editing

The following tables contain information about the budgeted and actual personal development actions. Each of the budgeted and actual actions should be registered in the personal files too.

Supportive Actions

| Supportive actions | | Q1 | Q2 | Q3 | Q4 | Total |
|------------------------|------------|----|----|----|----|-------|
| Accounting&Finance | Budget | | | | | |
| | Actual | | | | | |
| | Difference | | | | | |
| Marketing & Commercial | Budget | | | | | |
| | Actual | | | | | |
| | Difference | | | | | |
| Technical | Budget | | | | | |
| | Actual | | | | | |
| | Difference | | | | | |
| Total | Budget | | | | | |
| | Actual | | | | | |
| | Difference | | | | | |

Source: own editing

The supportive actions depend on the management of the social cooperatives. Besides the quantitative data, it would be useful to store data about the advisory problem, the persons involving in the advisory work and the usefulness of the advisory report in point of future success.

To monitor the state of staff, some traditional human resource indicators also can be used. The indicators should be measured quarterly, and the tendency reflects the improvement or deterioration of staff satisfaction. The ratios support the balance scorecard mechanism.

In case of social cooperatives, the labour cost ratio is recommended, as a key performance indicator.

$$\text{Labour in value added ratio} = \frac{\text{quarterly labor cost (thousand forint)}}{\text{value added (thousand forint)}}$$

The value added is the difference between quarterly sales and quarterly material cost and other expenses except of depreciation and labour cost. Since the labour cost and most of the asset purchase is presently financed from state subsidy, the current value of ratio can be higher than 1. However, the economic entity should be sustainable, so the major aim of the social company to reduce this ratio to less than 1. The lower the ratio, the higher the amount, which the company can devote for further development and investment. This ratio can be distributed into three further indicators in the following way:

Labour in value added = Labour economical * Labour efficiency * Labour effectiveness

The ratios are interpreted below:

$$\text{Labour economical ratio} = \frac{\text{labour cost (1thousand forint)}}{\text{potential working days (head*days)}}$$

The dimension of this ratio is forint/head/days. In case of social cooperatives its value mostly depends on the current level of daily minimal wage. The higher than minimal value indicates higher generosity of social cooperatives or higher ratio of skilled labour.

$$\text{Labour efficiency ratio} = \frac{\text{potential working days (head*days)}}{\text{active working days (head*days)}}$$

The ratio can be 1 or higher. If the ratio is 1, every employee works during the month. The potential minimum is likely not reached. The paid and unpaid holidays, the sickness can increase this figure. A sharp increase in this ratio indicates a mass holiday, but also a worsening attitude of labour activity.

$$\text{Labour effectiveness ratio} = \frac{\text{active working days (head*days)}}{\text{quarterly sales (forint)}}$$

The dimension of this ratio is head*days/forint. It measures how many labour times is required to produce one thousand forints value added. The lower the ratio, the better the effectiveness of the labour.

Not the absolute size of the ratios is important, but the size of their changes, which we can discover a logarithmical distribution in the following way.

$$100\% = \frac{\ln(\Delta ECO)}{\ln(\Delta LVA)} + \frac{\ln(\Delta EFI)}{\ln(\Delta LVA)} + \frac{\ln(\Delta EFE)}{\ln(\Delta LVA)}$$

where:

ΔLVA – ratio of two comparable labour in value added ratio

ΔECO – ratio of two comparable labour economical ratio

ΔEFI – ratio of two comparable labour efficiency ratio

ΔEFE – ratio of two comparable labour effectiveness ratio.

Conclusions

As we can see from the questionnaire, the Human Resource Management plays a vital role in the social cooperative management. A controlling system was developed to monitor and to observe the current state and the development of labour force in social cooperatives. The proposed managerial control system consists of two parts.

A table structure was developed to fulfil the requirements of the reporting system determined by the regulatory authority. The tables focus the cost of labour, the development of human resource and the supportive actions. The proposed frequency in case of individual record is monthly, for aggregated figures quarterly.

A ratio analysis tools was implemented to analyse the current state and the development of labour force. The analysis monitors the utilization of human resource and identifies three driving factors:

Economical factor measures the cost of labour per potential working days.

Efficiency factor measures how relates the potential working days to the actual working days.

Effectiveness factor measures the productivity of the available labor source.

The ratios can be calculated not only the cooperative aggregate level but can examine in different product lines if they exist.

Limitations

The above offered tables (namely table 2, 3, 4, 5, 6, 7) are specialised to comply the data request of granting authority, but can be widely used, if the quality of the available labour force is a vital issue in a social enterprise. Table 2 is a general record structure which should be maintained in every enterprise. The cost-benefit analysis is the core duty of any management, and the development of labour force skills is very important in social cooperatives. Table 4 shows the development, while table 3 shows the cost at the level of a single person, while table 5 and table 6 record it at an aggregate level. Table 7 serves only special purpose to comply the data request of this special granting programme.

The developed indicators – the labour economical ratio, the labour effectiveness ratio and the labour efficiency ratio are offered to use generally in every social enterprise or any public institutions which have own revenues. These ratios can be considered as an implication of the EU budget rules – 3E on field of Human Resource Management (Otrusinova – Pastuszkova, 2012).

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The role of entrepreneurship in achieving competitive advantage

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Keywords

entrepreneurship, business, SMEs, competitive advantage, administrators

Abstract

Despite the importance of promoting entrepreneurship in business activities to achieve a competitive advantage, a large proportion of business firms fail to make entrepreneurship a reality in their work. In addition, these constraints make it possible to gain a competitive advantage in the problems of the market in particular that modern markets are full of rivals and fast-paced changes in various variables. In light of this, the researcher carried out this study to investigate the role of entrepreneurship in achieving competitive advantage in SMEs. By using the descriptive-analytical approach, developing a questionnaire tool and distributing it to a sample of 100 administrators working in SMEs in Saudi Arabia. The results of the study showed that there is a positive relationship in the role of entrepreneurship in achieving competitive advantage in small and medium enterprises in the Kingdom of Saudi Arabia.

The study Problem

Companies face the need to be constantly nimble and flexible in today's fast-paced competitive environment. Although businesses are often able to assess a certain level of efficiency based on current technology, they are just as often left flat-footed in the face of new, novel technologies. Increased competition among businesses due to constant changes in the economy, resources, technology, demand and expectations of customers, labor and equipment costs, and limited opportunities (Zaid, 2013). In order to improve customer loyalty, this leads the management of businesses to explore how to enhance their resources, discover and leverage new opportunities, find more innovative ways and take effective steps to deliver new and high-service quality. In essence, this phase favorably influences the achievement of competitive advantage. In light of this, we can put the main question of the study: -What is the role of entrepreneurship in achieving competitive advantage?

The main question includes a number of sub-questions, the most important of which are the following:

What are the characteristics of entrepreneurs that are sources of competitive advantage?

What is the impact of entrepreneurship dimensions (creativity, innovation, risk-taking, and pro-activity) in achieving a competitive advantage (service quality)?

What is the extent of participants' practice of the entrepreneurship dimensions?

Aim and objectives

This study aims to shed light on the role of entrepreneurship in achieving competitive advantage

Introduction

In modern business organizations, the ever-increase in global competition, scientific and technological advancement has motivated organizations to become an organization in several areas of business, product and service that achieves more of the dimensions of entrepreneurial orientation. Covin & Miles, (1999), Ferrira, (2002), Dess et al., (2003), and Christensen, (2004), according to Burgelman et al., (1984), Entrepreneurship strengthens the imaginative and creative skills of employees of companies and leads them to improve their internal climate, policies, procedures, activities, capital, goods, and services in order to maximize their performance by creating new projects, taking advantage of new business opportunities and enhancing their competitiveness. Moreover, an entrepreneurship orientation will discern a risk-taking willingness to make full market profits. "In addition, Antoncic and Hisrich, 2003 note that: "Entrepreneurship practices are aimed at creating new business projects and developing new goods,

services, innovations, and administrative strategies within existing organizations to broaden their activities".

Definition of Entrepreneurship

According to Brown, Davidsson, and Wiklund (2001), *Entrepreneurship Management*, utilizing Stevenson's description, found that "Entrepreneurial Management" could be described as entrepreneurial management practices that can help companies remain vital and contribute to the development of value for business and society. According to the explanation given by Kuhn (2010) using the concept of Stevenson, it is claimed that entrepreneurship is actually a method of management without regard to resources governed by the pursuit of opportunity. Entrepreneurial management is an established technique for changing further transparency in terms of internal services that leads to greater value for their money for customers and can be done through various processes, rewards, and funding (Oregon, 2010).

Entrepreneurship is a multidimensional term that incorporates multiple aspects (Low, 2001). This multidimensional nature of entrepreneurship has made it possible for scholars to conceptualize from a diverse viewpoint in several various ways. It is also worth noting that entrepreneurship has developed over the years as a philosophy and that its conceptualization has changed as well. For example, entrepreneurship was used in the Middle Ages to apply to the capacity of a person to handle large production projects (Padilla and Cachanosky, 2016). In this context, the emphasis was on the ability of the individual to handle the projects using the resources available, but not on the individual's capacity to take risks.

Therefore, a typical entrepreneur was a cleric or a person who was responsible for managing great architectural works and fortifying cathedrals, abbeys, and public buildings. In the 17th century, as people began linking entrepreneurship with risks, this view shifted. As conceptualized throughout this time, an entrepreneur was a person licensed to supply a specified product or perform a service by the government, and he received a profit or loss through this contractual arrangement. This was in line with the 17th-century theory of Richard Cantillon that such an entrepreneur could purchase things at a certain price and sell them at a different yet uncertain price as a risk-taker. In line with this view, farmers, artisans, traders, and other sole owners illustrated entrepreneurs throughout this age. Businessmen were seen as venture capitalists later in the 18th century (Rahatullah Khan, 2013).

In the 19th and 20th centuries, this perception shifted somewhat because entrepreneurship was primarily regarded from an economic viewpoint and not differentiated from management. An entrepreneur was therefore defined as an individual who conducted and administered a business for personal profit and charged prices for the products used by the company; paid for the use of the land and for the money, as well as for the employing specific services. An entrepreneur was also seen as an employee who could contribute to the preparation, management, and organization of the business with personal initiative, creativity, and ability. This person may assume the chance of gaining a benefit or risking a loss resultant from uncontrollable and unforeseen circumstances (Bridge, 2017). In the 20th and 21st centuries, the idea of entrepreneurship was applied to the concept of creativity.

Nowadays, Entrepreneurs are seen as people with the potential to revolutionize production patterns by leveraging an innovation. Others see an entrepreneur as a business individual who begins (builds), creates, and manages a business enterprise that risks capital, effort, and time (Al Qudah, 2018). Additionally, Baron and Henry (2010) define entrepreneurship as referring to the person who uses its attributes, like risk-taking, ingenuity, imagination, and the ability to organize and schedule activities to execute ideas in order to achieve a certain purpose.

Competitive Advantage

In a world where market rivalry is highly intense, businesses need to improve their practices, personnel, procedures, and strategies in order to develop and improve their competitive advantage. Moreover, developments in market phenomena and competitive conditions nowadays have a huge effect on businesses to develop specific competition or competitive advantage (Thompson et al., 2008; Rungwitoo, 2012). One of the strongest priorities of companies is to maintain and maintain a competitive advantage in order to be competitive with rivals to attract new buyers (Javadi, 2011).

The competitive advantage is the ability of a company to establish a defensible role over its rivals (Porter, 1985). Competitive advantage implies that one company will compete with its competition if two or more companies compete in the same market at the same time (Grant, 1998). Competitive advantage is the comprehensive skills that enable a company to distinguish itself from its rivals and is the product of critical decision-making in administration (Tracey et al., 1999; Li et al., 2004). It is the thing in the minds of clients that separates your business from its rivals. A business or manager needs to have a strong competitive advantage and convey that advantage to its clients and markets (Zaid, 2013).

The competitive advantage is the ability of a company to function, execute, innovate, and implement novel products and services in forms that cannot be matched by rivals (Kotler, 2000). A business must have sustainable values for clients in addition to creating a competitive advantage. An organization is said to have a competitive advantage when a company implements a value-creating strategy that is not adopted by its existing or future rivals at the same time (Clulow, Gerstman, & Barry, 2003).

It has been noted and believed that Entrepreneurship and competitive advantage are directly or indirectly related to the performance of the company, here are the previous studies that talked about Entrepreneurship and its connection to a company's competitive advantage:

Dalvi & Ahangaran (2014) explored the effects of entrepreneurship and sustainable competitive advantage by evaluating the merits of marketing and innovation potential in appliances companies in Isfahan Province. Data were collected through a questionnaire using statistical software including the SPSS statistical test of normality test of data distribution (Kolmogorov - Smirnov test), regression, and ANOVA was examined. The study sample included all the managers of the hardware companies in Isfahan governorate, whose number is estimated at 91. All census methods were used regardless of the total population. The results indicated that there is a significant relationship between entrepreneurship and competitive advantage in appliances firms in Isfahan province.

Zaridis (2016) illustrated some aspects of the entrepreneur and the SME that are sources of competitive advantage. In resource-based words, a plethora of tools and competencies have been proposed as sources of competitive advantage and new ones are constantly added. The hierarchy of sources of competitive advantage about their sustainability seems to be struggling. Some variables, including company size, management, ownership, data relating to the sustainability and competitiveness of small and medium-sized companies, revenue, profitability, liquidity, lack of trained staff, data and market knowledge on distribution networks, possible fundraising, use of innovation or new technology, organizational structure, control of the capital, networking, and clustering, play an important role. These factors affect the company size of SMEs, such as entrepreneurial characteristics, management techniques, the influence of the external climate, and SME attributes, which are among the factors that make up the features of a good small business. There is no variation between the failure of SMEs and success. There are three types of failures listed, apart from environmental factors: functional expertise, managerial skills, and managerial behavior, linked to the characteristics of entrepreneurs and SMEs.

Ab Rahman (2014) contributed to the understanding of SMEs and firm performance within the business by drawing attention to the crucial factors affecting its success and further providing an integrated structure for evaluating the performance of SMEs. It is suggested that it relies on resource-based view theory as well as incorporating perspectives from Porter's theory into an integrative framework of firm success and factors affecting it. The proposed structure has made it possible to recognize the factors influencing the success of SMEs and to capture holistic organizational performance within the business.

Haseeb et al. (2019) explored the importance of social and technological challenges in achieving a sustainable competitive advantage and sustainable performance of the industry. To achieve this goal, first-hand data from Malaysian SMEs have been obtained. Opinions on the roles of social and technological obstacles in achieving a sustainable competitive advantage and sustainable business results were favored among managers of these SMEs. To collect data, an email survey was carried out. A total of 500 questionnaires have been distributed to SME management personnel. By simple random sampling, questionnaires were distributed. The survey's results showed that social and technological challenges played a major role in improving sustainable competitive advantage and sustainable business efficiency through the use of structural equation modeling. In addition, strategic alignment has been a critical factor

in representing the positive position of social and technical influences in sustainable competitive advantage. The study's results were helpful to practitioners and will allow their approaches to representing sustainable competitive advantages and sustainable business results.

Murniningsih & Hanafi (2020) explored the mediation impact of innovation to improve the competitive advantage of small and medium enterprises in the Magelang market by affecting entrepreneurial leadership and information technology and communication. A survey in the form of a questionnaire was used. The population was the employees of the small and medium enterprises in the Magelang area, and the approach of sample collection takes the form of non-probabilistic sampling using a purposeful sampling technique, 105 respondents were in the survey. In testing hypotheses and through the Warp PLS software, the research instrument used Structural Equation Modeling (SEM). The test results showed that in promoting competitive advantage in small and medium enterprises, entrepreneurial leadership and information technology and communication are extremely significant.

Sulistyo and Ayuni (2020) explored the effect on innovation and efficiency capabilities of entrepreneurial orientation and social capital in gaining sustainable competitive advantage of SMEs. Descriptive and explanatory methodologies are used. The study sample consisted of owners of SME handicrafts in Semarang, Jepara, Kudus, with up to 254 participants. Sampling is carried out on SMEs that have been running for at least five years, have employees of more than 10 individuals, and still operate to date. Via closed and open questionnaires and interviews, data was gathered using the survey process. Using the structural equation method of the AMOS software, data analysis was performed. The findings showed that there is a major impact on entrepreneurship and performance capabilities between entrepreneurial orientation and social capital. The potential for creativity has a huge effect on performance enhancement and the competitive advantage of SMEs.

Literature Review

Small and medium-sized enterprises (SMEs) are the largest industry of all countries. It has a major position in any country's Gross Domestic Product (GDP) (Mckague et al., 2011). In the Kingdom of Saudi Arabia, there is an understanding that supports for SMEs is an important contributor to economic development and growth. This support is provided by the General Authority to small and medium-sized enterprises; it named one of its objectives in Arabic "Monshaat" to increase SME participation in GDP by 20 percent of GDP to 35 percent by 2030 (Alghanmi, 2020).

The world of business is characterized by high uncertainty and rapid change define. In order to promote entrepreneurship and creativity and to create a competitive edge in the industry, the specific problems in the world of business requirements for small and medium enterprises need to be prepared. By making it stand out from rivals in one or more aspects, including, though not limited to the launch of new goods or services, a competitive advantage helps a company. It is not an easy endeavor to become competitive in the market; it requires paying emphasis on the significance of entrepreneurship and innovation in all organizational functions and procedures (Epetimehin, 2011).

In addition, the competitive advantage is one of the vital topics for continuity. This importance lies in that it enables a business firm to exhibit superior performance in one aspect or more in a manner that is considered superior to that of other competitors. Attaining a competitive advantage requires a firm to focus on some strategies and improving the firm's public image. This value lies in the fact that it allows a company to exhibit superior performance in one element or more in a way that is considered superior to that of other rivals. A company needs to concentrate on some policies and improve the public image of the company to achieve a competitive advantage (Alghanimi, 2020).

Research Methodology

The study adopted the descriptive-analytical method of the random sample method, the study was limited to a sample of small and medium-sized companies consist of (100) employees that have been operating for at least five years, employing more than 10 people, and are still in existence today In the Kingdom of Saudi Arabia. A special questionnaire has been designed for distribution to this sample, including a set of determinants that represent gender, age educational level, number of years of experience various and interrelated questions, distributed as shown in table (1) below.

Table (1): Distribution of the study sample in SMEs in KSA

| Variable | Level | Number | Percent (%) | Total |
|---------------------|---------------------------|--------|-------------|-------|
| Gender | Male | 71 | 71.0 | 100 |
| | Female | 29 | 29.0 | |
| Age | Less than 30 years' | 25 | 25.0 | |
| | 30-40 years' | 20 | 20.0 | |
| | 41-50 years' | 28 | 28.0 | |
| | more than 50 years' | 27 | 27.0 | |
| Education Level | Bachelor's degree or less | 11 | 11.0 | |
| | Higher diploma | 12 | 12.0 | |
| | Master | 42 | 42.0 | |
| | PhD | 35 | 35.0 | |
| Years of Experience | < 2 years | 7 | 7.0 | |
| | 2-5 years | 12 | 12.0 | |
| | 6-10 years | 21 | 21.0 | |
| | 10-20 years | 43 | 43.0 | |
| | More than 20 years | 17 | 17.0 | |

According to Table (1) results, it can be noticed that the study sample consists of both gender (males and females). Majority of the sample were male (71%), while the female category constitutes (29%) of the total sample. This percentage gives an indication that the sample is representative of society and that it takes into account the point of view of females and males alike, but perhaps the slight increase in the number of male participants is that men are more practicing jobs and works than females in the traditional Saudi society.

It is evident from Table No. (1) that the age group most participating in this survey was (41-50 years) by (28%), followed by (27%) respondents (over 50 years old), then followed by the age group (less than 30 years old) By (25%), and finally the age group (30-40 years) by (20%), and this confirms that (28%) a percentage of managers in SMEs in KSA who enjoy the youth age group.

Moreover, it appears from Table (1),with regard to the (Education Level) variable, that the category most involved in the survey is the (Master) category with a percentage (42%), followed by the (PhD) category and with a percentage (35%), and the (Higher diploma) category came before The last percentage (12%), and finally, the least participation in the survey was the category (Bachelor degree or less) with a percentage (11%), this confirms that the largest percentage of the study sample is the (Master) category of managers in SMEs in KSA, This indicates that business managers in these companies enjoy a high level of education

Finally, Table (1) indicates according to the (Years of Experience) variable, that the category most participating in the survey is (10-20 years) with a percentage (43%), then it is followed by (6-10 years) with a percentage (21%). The category (More than 20 years) and a percentage (17%), and the category (2-5 years) with a percentage (12%), Finally, the least participation in the survey was the category (Less than two years) by a percentage (7%). This confirms that the largest percentage of the study sample is the category (10-20 years) of managers in SMEs in KSA, which indicates that Business managers in these companies are highly experienced and have high competencies and experiences.

Analysis the Result

Main question: What is the role of entrepreneurship in achieving competitive advantage?

To answer this question, the descriptive summary (means and standard deviation) of the responses to the statements measuring the role of entrepreneurship in achieving competitive advantage was calculated from the point of view of managers in SMEs in KSA and for the variables as a whole. Table (5) below illustrates those values, where those values are arranged in descending order according to their calculated arithmetic means.

Table (5) Descriptive Summary (means and standard deviation) for the role of entrepreneurship in achieving competitive advantage in SMEs in KSA

| Number the field | The field | Means | Standard deviations | Practice's degree | The rank |
|---------------------|---|-------|---------------------|-------------------|----------|
| 3 | Creativity | 3.96 | 0.55 | High | 1 |
| 2 | Innovation | 3.86 | 0.41 | High | 2 |
| 5 | Pro-activity | 3.79 | 0.53 | High | 3 |
| 1 | competitive advantage (service quality) | 3.78 | 0.35 | High | 4 |
| 4 | Risk-taking | 3.64 | 0.47 | Medium | 5 |
| The tool as a whole | | 3.82 | 0.34 | High | |

Table Number. (5) shows that the means of the approval of the research sample for the role of entrepreneurship in achieving competitive advantage from the viewpoint of managers in SMEs in KSA ranged between (3.64 - 3.96). In order to determine the paragraphs according to the fields they fall means and standard deviations were calculated for areas of the role of entrepreneurship in achieving competitive advantage from the viewpoint of managers in SMEs in KSA It ranged for each paragraph separately. and an arrangement was made for the paragraphs of each dimension, and below is a presentation of the results according to the fields:

The First Question: What are the characteristics of entrepreneurs that are sources of competitive advantage?

The First Scale: Competitive advantage (service quality)

This field included (9) paragraphs that measure the characteristics of entrepreneurs that are sources of competitive advantage from the viewpoint of managers in SMEs in KSA, and Table No. (6) shows this.

Table (6) below illustrates those values, where those values are arranged in descending order according to their calculated arithmetic means.

Table (6) Descriptive Summary (means and standard deviation) for the competitive advantage (service quality) in SMEs in KSA

| # | The paragraphs | Means | Standard deviations | Practice's degree | The rank |
|----------------------|--|-------|---------------------|-------------------|----------|
| 1 | The company provides its services with competitive prices | 3.93 | 0.79 | High | 1 |
| 6 | The company is an entrepreneur in providing services before its rivals. | 3.89 | 0.86 | High | 2 |
| 2 | company services and prices are adaptable according to supply and demand. | 3.87 | 0.69 | High | 3 |
| 5 | The company works to provide services which include new additional features. | 3.83 | 0.91 | High | 4 |
| 3 | The company provides offers on its services prices. | 3.81 | 0.83 | High | 5 |
| 7 | The company quickly responses to customer complaints. | 3.77 | 0.80 | High | 6 |
| 9 | The company evaluates the quality of its services with constant development to improve its competitive position in the market. | 3.65 | 0.82 | Medium | 7 |
| 4 | The company seeks to provide new services. | 3.61 | 0.91 | Medium | 8 |
| 8 | The company stimulates the research and development (R&D) to provide services in accordance with the customers' needs. | 3.47 | 0.91 | Medium | 9 |
| the scale as a whole | | 3.78 | 0.35 | High | |

It can be noticed from Table (6) above that the arithmetic means that measure the competitive advantage (service quality) in SMEs in KSA are high and medium, ranging between (3.47 - 3.93). Moreover, the overall mean for this section was (3.78) which shows that most of the study sample highly agrees with the items of this part of the study.

It can be noticed that item (1), which states that: "The company provides its services with competitive prices," represents the highest agreed mean statement (3.93, Std. = 0.79) and was followed by item (6)

secondly in which it stated that: "The company is an entrepreneur in providing services before its rivals" with a mean (3.89, Std.= 0.86), thirdly item (4) in which it stated that: "The company seeks to provide new services " with a mean (3.61, Std.= 0.91) and fourthly item (8) which stated that: "The company stimulates the research and development (R&D) to provide services in accordance with the customers' needs " with a mean (3.47, Std.= 0.91)

The second question: What is the impact of entrepreneurship dimensions (creativity, innovation, risk-taking, and pro-activity) in achieving a competitive advantage (service quality)?

To detect the impact of entrepreneurship dimensions (creativity, innovation, risk-taking, and pro-activity) in achieving a competitive advantage (service quality), a multiple linear regression test was used.

Table (7) Shows the multiple linear regression test for the impact of entrepreneurship dimensions in achieving a competitive advantage.

| the impact of entrepreneurship dimensions in achieving a competitive advantage | The Source of change | Sum of squares | Degrees of freedom | Medium Sum of squares | The coefficient of determination (R ²) | Coefficient of Correlation (R) | Value F | The significance level | The statistical |
|--|----------------------|----------------|--------------------|-----------------------|--|--------------------------------|---------|------------------------|--------------------------|
| | Regression | 10.356 | 4 | 2.589 | 0.858 | 0.926a | 143.743 | 0.000b | Statistical significance |
| | The error | 1.711 | 95 | 0.018 | | | | | |
| | Total | 12.067 | 99 | | | | | | |
| a. Dependent Variable: competitive advantage (service quality) | | | | | | | | | |
| b. Predictors: (Constant), Pro-activity, Innovation, Risk-taking, Creativity | | | | | | | | | |

The previous table Number (7) shows that there is impact of entrepreneurship dimensions (creativity, innovation, risk-taking, and pro-activity) in achieving a competitive advantage (service quality) at a significance level of ($\alpha \leq 0.05$) and this is confirmed by the value of a significance level equal to (143.743) as it is less than 0.05. Depending on the table (7), the correlation coefficient (0.926) between the dependent variable (competitive advantage) and the independent variables (Pro-activity, Innovation, Risk-taking, Creativity) was reached, and the determination coefficient was (0.858). This means that the dependent variable explains a percentage (85.8%) of the dependent variables.

Table (8) Multiple linear regression test of the second question linear equation coefficients

| Coefficients | | | | | |
|--|-----------------------------|------------|---------------------------|---------|-------|
| The dimensions of the independent variable | Unstandardized Coefficients | | Standardized Coefficients | Value t | Sig. |
| | B | Std. Error | Beta | | |
| (Constant) | 0.140 | 0.159 | | 0.879 | 0.382 |
| Innovation | 0.341 | 0.040 | 0.409 | 8.532 | 0.000 |
| Creativity | 0.230 | 0.030 | 0.369 | 7.748 | 0.000 |
| Risk-taking | 0.207 | 0.030 | 0.283 | 6.824 | 0.000 |
| Pro-activity | 0.187 | 0.026 | 0.285 | 7.074 | 0.000 |
| a. Dependent Variable: Competitive Advantage (service quality) | | | | | |

The previous table Number (8) shows that there is impact of entrepreneurship dimensions (creativity, innovation, risk-taking, and pro-activity) in achieving a competitive advantage (service quality) at a significance level of ($\alpha \leq 0.05$), Depending on the table (8) that shows the values of t for the independent variables (Pro-activity, Innovation, Risk-taking, Creativity), all of which are statistically significant, at the level of statistical significance (0.000), Which indicates that there is an effect of entrepreneurship dimensions in achieving a competitive advantage (service quality).

Therefore, the multiple linear regression equation is as follows:

Competitive advantage (service quality) = 0.140 + (0.341) * (Innovation) + (0.230) * (Creativity) + (0.207) * (Risk-taking) + (0.187) * (Pro-activity)

The Third Question: What is the extent of participants' practice of the entrepreneurship dimensions?

To answer this question, the descriptive summary (means and standard deviation) of the responses to the statements measuring the extent of participants' practice of the entrepreneurship dimensions was calculated from the point of view of managers in SMEs in KSA.

The Second Scale: entrepreneurship dimensions.

The First Field: Innovation

This field included (7) paragraphs that measure the extent of participants' practice of the entrepreneurship dimensions from the viewpoint of managers in SMEs in KSA, and Table No. (9) shows this.

Table (9) below illustrates those values, where those values are arranged in descending order according to their calculated arithmetic means

Table (9) Descriptive Summary (means and standard deviation) for the entrepreneurship dimensions (Innovation) in SMEs in KSA.

| # | The paragraphs | Means | Standard deviations | Practice's degree | The rank |
|----------------------|---|-------|---------------------|-------------------|----------|
| 6 | The company seeks to benefit from technology in order to provide better services. | 4.05 | 0.64 | High | 1 |
| 5 | The company provides training courses for employees to reach innovation and excellence. | 4.03 | 0.86 | High | 2 |
| 1 | The company strongly emphasizes research and development R&D and innovation instead of focusing on the marketing of current services. | 3.92 | 0.82 | High | 3 |
| 3 | Over the past years, the company introduced many new services. | 3.90 | 0.85 | High | 4 |
| 7 | The company priorities which are taken into account are in continuous growth and stability | 3.81 | 0.91 | High | 5 |
| 2 | The changes in services in the company are quite dramatic. | 3.79 | 0.83 | High | 6 |
| 4 | Senior management philosophy in the company emphasizes the development of services regardless of their costs. | 3.52 | 0.85 | Medium | 7 |
| the field as a whole | | 3.86 | 0.41 | High | |

It can be noticed from Table (9) above that the arithmetic means that measure the entrepreneurship dimensions (Innovation) in SMEs in KSA are high and medium, ranging between (3.52 - 4.05). Moreover, the overall mean for this section was (3.86) which shows that most of the study sample highly agrees with the items of this part of the study.

It can be noticed that item (6), which states that: "The company seeks to benefit from technology in order to provide better services," represents the highest agreed mean statement 4.05, Std. = 0.64) and was followed by item (5) secondly in which it stated that: " The company provides training courses for employees to reach innovation and excellence " with a mean (4.03, Std.= 0.86), thirdly item (2) in which it stated that: " The changes in services in the company are quite dramatic " with a mean (3.79, Std.= 0.83) and fourthly item (4) which stated that: "Senior management philosophy in the company emphasizes the development of services regardless of their costs' needs " with a mean (3.52, Std.= 0.85)

The Second Field: Creativity

This field included (5) paragraphs that measure the extent of participants' practice of the entrepreneurship dimensions from the viewpoint of managers in SMEs in KSA, and Table No. (10) shows this.

Table (10) below illustrates those values, where those values are arranged in descending order according to their calculated arithmetic means

Table (10) Descriptive Summary (means and standard deviation) for the entrepreneurship dimensions (Creativity) in SMEs in KSA.

| # | The paragraphs | Means | Standard deviations | Practice's degree | The rank |
|----------------------|--|-------|---------------------|-------------------|----------|
| 1 | The company I benefits from the ideas of workers in solving problems. | 4.07 | 0.72 | High | 1 |
| 5 | The company is keen on research and development (R&D) and provides services that comply with customer needs. | 4.02 | 0.84 | High | 2 |
| 4 | The company encourages the teamwork approach to produce new ideas. | 3.94 | 0.81 | High | 3 |
| 2 | The company encourages new ideas from any worker regardless of his/her status in the company. | 3.91 | 0.93 | High | 4 |
| 3 | The company gives great attention to devise services and new processes. | 3.82 | 0.89 | High | 5 |
| the field as a whole | | 3.96 | 0.55 | High | |

It can be noticed from Table (10) above that the arithmetic means that measure the entrepreneurship dimensions (Creativity) in SMEs in KSA are high, ranging between (3.82 – 4.07). Moreover, the overall mean for this section was (3.96) which shows all of the study sample highly agrees with the items of this part of the study.

It can be noticed that item (1), which states that: "The company I benefits from the ideas of workers in solving problems", represents the highest agreed mean statement (4.07, Std. = 0.72) and was followed by item (5) secondly in which it stated that: "The company is keen on research and development (R&D) and provides services that comply with customer needs " with a mean (3.89, Std.= 0.86), thirdly item (2) in which it stated that: " The company encourages new ideas from any worker regardless of his/her status in the company " with a mean (3.91, Std.= 0.93) and fourthly item (3) which stated that: "The company gives great attention to devise services and new processes " with a mean (3.82, Std.= 0.89)

The Third Field: Risk-taking

This field included (5) paragraphs that measure the extent of participants' practice of the entrepreneurship dimensions from the viewpoint of managers in SMEs in KSA, and Table No. (11) shows this.

Table (11) below illustrates those values, where those values are arranged in descending order according to their calculated arithmetic means

Table (11) Descriptive Summary (means and standard deviation) for the entrepreneurship dimensions (Risk-taking) in SMEs in KSA.

| # | The paragraphs | Means | Standard deviations | Practice's degree | The rank |
|----------------------|---|-------|---------------------|-------------------|----------|
| 2 | The company decisions are risky in spite of the uncertainty of outputs. | 3.98 | 0.86 | High | 1 |
| 1 | The company is a risk-taker with the opportunities associated with risks. | 3.84 | 0.88 | High | 2 |
| 5 | The company practice the "wait and see" position to minimize risk. | 3.67 | 0.73 | Medium | 3 |
| 4 | In general, the company emphasizes high-risk projects with uncertain returns. | 3.66 | 0.76 | Medium | 4 |
| 3 | The company seeks to seize opportunities and search for new markets. | 3.50 | 0.75 | Medium | 5 |
| the field as a whole | | 3.64 | 0.47 | Medium | |

It can be noticed from Table (11) above that the arithmetic means that measure the entrepreneurship dimensions (Risk-taking) in SMEs in KSA are high and medium, ranging between (3.50 – 3.98). Moreover,

the overall mean for this section was (3.64) which shows that most of the study sample highly agrees with the items of this part of the study.

It can be noticed that item (2), which states that: "The company decisions are risky in spite of the uncertainty of outputs," represents the highest agreed mean statement (3.98, Std. = 0.86) and was followed by item (1) secondly in which it stated that: "The company is a risk-taker with the opportunities associated with risks " with a mean (3.84, Std.= 0.88), thirdly item (4) in which it stated that: "In general, The company emphasizes high-risk projects with uncertain returns " with a mean (3.66, Std.= 0.76) and fourthly item (3) which stated that: "The company seeks to seize opportunities and search for new markets " with a mean (3.50, Std.= 0.75)

The Fourth Field: Pro-activity

This field included (5) paragraphs that measure the extent of participants' practice of the entrepreneurship dimensions from the viewpoint of managers in SMEs in KSA, and Table No. (12) shows this.

Table (12) below illustrates those values, where those values are arranged in descending order according to their calculated arithmetic means

Table (12) Descriptive Summary (means and standard deviation) for the entrepreneurship dimensions (Pro-activity) in SMEs in KSA.

| # | The paragraphs | Means | Standard deviations | Practice's degree | The rank |
|----------------------|---|-------|---------------------|-------------------|----------|
| 4 | The company works on providing services that include new features and different improvements more than competitors. | 4.06 | 0.90 | High | 1 |
| 5 | The company is fast-growing towards achieving its main objectives. | 3.96 | 0.76 | High | 2 |
| 2 | In general, the company is the first mover in introducing new services. | 3.82 | 0.77 | High | 3 |
| 3 | The company seeks for customers-satisfaction in a way beyond the size of the possibilities available. | 3.75 | 0.82 | High | 4 |
| 1 | The company seeks to provide new services before its competitors. | 3.47 | 0.79 | Medium | 5 |
| the field as a whole | | 3.79 | 0.53 | High | |

It can be noticed from Table (12) above that the arithmetic means that measure the entrepreneurship dimensions (Pro-activity) in SMEs in KSA are high and medium, ranging between (3.47 - 4.06). Moreover, the overall mean for this section was (3.79) which shows that most of the study sample highly agrees with the items of this part of the study.

It can be noticed that item (4), which states that: "The company works on providing services that include new features and different improvements more than competitors," represents the highest agreed mean statement (4.06, Std. = 0.86) and was followed by item (5) secondly in which it stated that: "The company is fast-growing towards achieving its main objectives " with a mean (3.96, Std.= 0.76), thirdly item (3) in which it stated that: "The company seeks for customers-satisfaction in a way beyond the size of the possibilities available " with a mean (3.75, Std.= 0.82) and fourthly item (1) which stated that: "The company seeks to provide new services before its competitors " with a mean (3.47, Std.= 0.79).

Discussion the Results

The results of the study showed the role of entrepreneurship in achieving competitive advantage from the point of view of managers in small and medium enterprises in the Kingdom of Saudi Arabia, ranging between (3.64 - 3.96). The results of the study are similar to those of (Dalvi & Ahangaran, 2014). This is in terms of the existence of a large relationship between entrepreneurship and competitive advantage in companies in Isfahan Governorate, but our study was conducted in Saudi Arabia.

The results also revealed the dimensions that have a positive impact on achieving competitiveness, including a study Zaridis (2016) as it is similar with my study, this study achieve competitiveness by proposing many tools and competencies as sources of advantage and as competitive and among these

similar methods is the use of innovation or new technology, management techniques, and control of capital.

Our study concurred with a study Haseeb et al. (2019), which showed the most important social and technological challenges that play a major role in improving the sustainable competitive advantage and sustainable business efficiency, but in our study, we showed the challenges and risks in general.

Murniningsih & Hanafi (2020) study is similar to our study in terms of explaining one of the dimensions of entrepreneurship that has a positive impact on achieving competitive advantage, which is innovation, as it indicated the need to enhance the competitive advantage in small and medium-sized enterprises.

The results of this study are consistent with the results of a study Sulistyo and Ayuni (2020), the study showed that there is a significant impact on entrepreneurial capabilities and performance between entrepreneurship and social capital. The ability to innovate greatly enhances the performance and competitive advantage of small and medium-sized companies.

Conclusion

The sustainable competitive advantage is a major goal that all business organizations seek to achieve, as the basic problem that these organizations face is the problem of continuity and survival that they choose, which requires their possession of the factors supporting that, represented in the objectives, resources and able and motivated individuals, as well as the correct and necessary strategic options.

Using the descriptive, analytical approach relying on the questionnaire and distributing it for a sample which it consists of 100 administrators working in small and medium enterprises in Kingdom of Saudi Arabia. The results of the study showed, in general, that there is a positive relationship in the role of entrepreneurship in achieving competitive advantage in small and medium enterprises in the Kingdom of Saudi Arabia.

The study also showed that there are many means used to measure the competitive advantage and the quality of the services provided by providing services at competitive prices, providing their services before competitors, providing new services, and motivating the company to research and develop.

The study also indicated that the four dimensions (innovation, creativity, risk and pro-activity) have a positive impact on achieving competitive advantage.

From the point of view of managers in small and medium-sized companies, it appears that innovation takes place in several ways, the most important of which is the use of technology and the holding of training courses. As for the second dimension, which is creativity, it takes place through benefiting from creative workers, being keen on research and development, encouraging new ideas and innovating services.

Risks are also considered one of the dimensions that affect the achievement of competitive advantage, which is represented by the company's dangerous decisions, its high-cost projects and unsecured profits. As for the support activity, it was found that the provision of services includes new reservations, the company is quick to achieve its goals, and customer satisfaction exceeds the capabilities.

Recommendations

From the results of the study that were reached, several recommendations were made, represented by the following points:

For the company to review its mission and future visions to include all or some of the influencing elements, the most important of which are quality, research, development, attention to human resources, and meeting customer needs.

Increase focus on quality and work on adopting the concept of total and optimal quality.

The necessity for small and medium enterprises to provide the appropriate climate for knowledge sharing between the two leaders necessary to achieve competitive advantage by facilitating the process of communication between them and facilitating access to knowledge bases.

Focusing on creativity and innovation for workers through holding seminars and meetings, discussing issues related to work, quality and competitive advantage, benefiting from their ideas and opinions, and participating in decision-making processes.

Emphasis on the use of technological equipment, as well as the development of human resources for telecommunications companies, which is achieved by attracting specialized scientific and technical competencies and methods of selection and appointment.

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Aligning digital literacy and student academic success: Lessons learned from COVID-19 pandemic

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Keywords

Academic Success, Aligning, COVID-19, Digital Literacy, Student, Pandemic

Abstract

In this paper the alignment of computer and digital literacy as well as student academic success were examined. Lack of adequate functional digital literacy training and the unreadiness of higher education institutions for the impact of random shocks such as COVID-19 pandemic has gravely affected teaching and learning.

The purpose of this paper is to make the case for preparedness of students to meet the needs of technology jobs by mandating and aligning digital literacy and student success. As COVID-19 Pandemic was spreading through the communities of the United States, institutions of higher education transitioned to fully online teaching and learning. Prior to the pandemic, fully online education was secondary to face-to-face format. Only about 20% of classes were fully online while 80% were face-to-face. Digital literacy was given a token treatment as a percentage of the entire curriculum and relegated to only the departments of computer information systems and computer sciences. Faculty, students, staff, families, and communities were not trained for the intensity of fully online education as the only format. Many of them never heard of most of the digital literacy tools. Both faculty and students were forced to learn the use of computers and digital literacy tools to survive the spring 2020 semester. Low-income families were left to the operational schedules of local libraries, many of whom did not have internet presence. The institutions provided limited training for faculty and students to meet the urgency of the time. Faculty and students were forced to purchase expensive tools and hardware to withstand the intensive demand of teaching and learning. Many students were overwhelmed by the pressure of the new way of learning; some dropped out of school while many performed very poorly in their examinations which negatively impacted their overall grade point averages. One year later in spring 2021, the student success outcomes have barely changed. At the same time, technology is advancing despite the raging COVID pandemic. Millions of technology-enabled jobs remain unfilled while millions of university graduates are unemployed. There continues to be a mismatch between current job requirements in the industries and graduating students' skills.

This paper discusses the indispensable value of building computer and digital literacy training into all undergraduate curriculums. We argue for mandated computer and digital literacy exit skills assessment test for all graduating students irrespective of their discipline. We also make the case for increased institutional investment in faculty training in computer and digital literacy readiness. There are a number of remedies suggested to address the speed of advancement in technology, faculty and student functional mastery of basic computer and digital literacy skills. We conclude that all institutions must be proactive rather than reactive to systemic shocks by preparing students for academic success and technological readiness for today's job markets.

Introduction

Digital literacy is crucial to academic success, particularly for first-generation college students who have no one to emulate. Many institutions of higher learning are now concerned with digital literacy readiness as a result of the forced shutdown due to the spread of Covid-19 in the spring of 2020. Digital literacy is defined as the ability to find, evaluate, share and create content using the internet (Widana, 2020). Covid-19 pandemic caused digital literacy skills to permeate the classroom and become requirements for both faculty and students. We live in an internet age that requires specific skills and working Americans rely on the internet to do their jobs. Digital literacy skills, therefore, have become essential to academic, career and interpersonal success. It follows that the more digitally literate faculty are, the more they will employ these skills in the classroom, which transfers to the students. However, not

all students have access to a computer and the Internet. Those that have access are able to find the answers to not only simple questions, but also complex problems. Those students that do not have access or cannot afford to have access to information are at a grave disadvantage. As a survival strategy, students who lack digital literacy access usually go to public places such as the libraries, cafes, or eateries to use the internet. Covid-19 pandemic denied these students the opportunity to avail themselves of such lifeline of available digital information because everybody had to quarantine indoors for safety while teaching and learning continued. Higher education was thrown into confusion as the Covid-19 pandemic occurred in the middle of the semester. Faculty and students had to continue the business of teaching and learning. The difference was that the paradigm shifted from face-to-face instruction to fully online. Most students were required to use digital literacy tools that they never used before. They were greatly unprepared for what confronted them. For deep learning, faculty must provide students with the additional digital skills required. However, to be effective, faculty must learn such skills first to be able to transfer to the students.

Research shows that while students may be adept at using digital tools, their understanding of what these tools can do is often limited (Doucet et al., 2020). For example, students use Instagram to post photos but do not think of using the same platform for art or history projects. They record themselves with a voice memo app but do not realize those apps could also be used for class projects or a historical narrative piece. Digitally literate faculty know how to inspire students to use today's technology as a powerful toolset to expand their learning opportunities. They also understand that it is less about the technology itself than it is about the tailored experience the technology can provide to each student. This is what drives differentiation and can make it powerful and highly targeted to students' individual needs. The emergency created by the Covid-19 pandemic destroyed this normal transfer of learning sequence. The faculty-student learning dynamic was disrupted. Students were left to figure things out on their own. Many of these students are first-generation undergraduates with no role models. Thus, as faculty master digital literacy with their lectures, they can collaborate with peers to share technology and work toward improving learning outcomes for their students, but they were hindered by the crisis of the raging pandemic that was killing millions of people. For students to get the most out of technology and the benefits it offers, they needed to know how to use it to process, deliver and receive digital information most effectively but they too were handicapped by the deadly pandemic. Majority of Faculty realized during COVID-19 that digital literacy was a critical skill for today's students because it directly impacts their academic performance, but they were also blindsided by the virus. Against this chaotic background, institutions of higher education were faced with aligning digital literacy and student academic success during Covid-19 pandemic.

Problem

Institutions of higher education prior to the Covid-19 pandemic treated digital literacy and computer education in general as a secondary requirement. The pandemic has forced the attention of higher education administration to focus on the need for intentionally designed online learning for the future. This necessary shift has made it possible for the institutions to continue teaching and learning amid the COVID-19 pandemic and has also presented a myriad of challenges for faculty and students. Faculty, through intensive professional development funded by the institutions, quickly adapted their pedagogies to the technologies at hand. However, students and their families have continued to struggle with the more basic need of accessibility as the campus computer labs, technical assistance and high-speed Wi-Fi ordinarily taken for granted remain unavailable. The challenge of keeping students engaged with their instructors as well as their peers remained a big challenge throughout the return to studies. These challenges are real and have prompted most institutions to reexamine the concept of "student success" and what it means to deliver on the expectations and needs of students. Learning has remained virtual, and many institutions are considering making online education a center piece of teaching and learning for the foreseeable future. The COVID-19 pandemic has presented institutional leaders and faculty with a catalyst for change. In response to this pedagogical shift, many institutions are using this challenge as an opportunity to connect with local organizations and community partners to provide educational opportunities that align with current jobs. Covid-19 pandemic has thus forced various sectors of the economy to seek answers in increasing student enrollment, retention, and graduation, all of which have been negatively impacted by the global Covid-19 crisis.

Lack of adequate functional digital literacy training as well as the unreadiness of higher education institutions for the impact of random shocks such as COVID-19 pandemic has gravely affected teaching and learning. As the Pandemic was spreading through the communities of the United States, institutions of higher education pivoted to fully online teaching and learning. Prior to the pandemic, fully online education was secondary to face-to-face format. Only about 20% of classes were fully online while 80% were face-to-face (UNESCO, 2020). Digital literacy was given a token treatment as a percentage of the entire curriculum and relegated to only the departments of computer information systems and computer sciences. Faculty, students, staff, families, and the communities were not trained for the intensity of fully online education as the only format available during the pandemic. Many students never heard of most of the digital literacy tools used for learning. Both faculty and students were forced to learn the use of computers and digital literacy tools to survive the spring 2020 semester. Low-income families were left to the operational schedules of local libraries, many of whom did not have internet presence. The institutions provided limited training for faculty and students to meet the urgency. Faculty and students were forced to purchase expensive tools and hardware to withstand the required intensive demand of teaching and learning. Many students were overwhelmed by the pressure of the new way of learning; some dropped out of school while others performed very poorly in their examinations which negatively impacted their overall grade point averages. One year later in spring 2021, the student success outcomes have barely changed. At the same time, technology is advancing, and the world is moving on despite the raging COVID pandemic.

Millions of technology-enabled jobs remain unfilled while millions of university graduates are unemployed. There continues to be a mismatch between current job requirements in the industries and graduating students' skills. COVID-19 has pushed the world in a new direction with regards to education. Digital literacy does not require that faculty become experts, but it does require that they understand the digital tools that can unlock their deeper teaching potential. Digital citizenship is widely defined as the appropriate and responsible use of technology (Stratford, 2020). Key to ensuring that students understand, and practice digital citizenship is to make it a core part of all curricula and to model ethical digital behavior. Faculty should intentionally weave discussions and elements of digital citizenship into lectures that involves technology, so students can see the relevance of digital citizenship. Not only do students need to know how to find information but they also need to know how to evaluate the content found. With 76% of teenagers using social media, according to the Pew Research Center (2021), it is important that teachers address ethical digital citizenship when teaching digital literacy. Helping students grasp the potential implications of their digital footprint is one critical area of importance for faculty designing digital literacy curricula. According to the Pew Research Center, ethical social media use is a critical component of any digital literacy curriculum, as a student's actions on social media can have ripple effects not only today but for years into the future. Faculty should educate students on available tools and how to best utilize them, but the pandemic has made this task extremely difficulty. Building digital literacy resiliency into the curriculum and educational systems is a proactive way to absorb systemic shocks such as the COVID-19 pandemic. Digital literacy is a big challenge that faculty, students, staff, administrators and the community together must handle. As most faculty goal is the success of their students, intentional alignment of digital literacy skills as well as effective use of its tools, must therefore be foremost in educational institutional agenda. Success in students' learning and progress at their jobs after graduation manifest this joint effort. This paper believes that digital literacy proficiency is the key to student success and should be central in future curriculum design and implementation.

Literature Review

All over the world, technology has become ingrained into personal, professional, and social aspects of our lives. According to a 2014 report by the U.S. Federal Communications Commission, 31 percent of urban schools and 41 percent of rural schools do not have an Internet connection. Students in these institutions struggle to take advantage of the tools, platforms, apps and resources available to their connected peers. But this digital divide is not just in schools, there is also a lack of access to devices and broadband at home exacerbating the digital divide. This was the reality faced by many students and their families prior to the devastating impact of Covid-19 pandemic. The reality is that educators must have digital literacy skills to better equip students to become productive citizens of society. Digital literacy

means having the knowledge and ability to use a wide range of technology tools for a variety of purposes (Mantiri, Hibbert, & Jacobs, 2019). According to Widona (2020), "Digital literacy is the ability to use and create technology-based content, including finding and sharing information, answering questions, and interacting with others and computer programming". The Covid-19 pandemic outbreak forced colleges and universities to shut down. This made the demand for online education worse and the impact of the lack of digital literacy skills more pronounced. Progress in teaching and learning was thus at the mercy of digital literacy, education, and tools. Faculty and their students were made vulnerable and educational institutions were struggling to find options to deal with the Covid-19 pandemic and its inherent challenges. Educators have a social and professional responsibility to be digitally literate (Widana, 2020). This is because 21st-century jobs rely on technology for production and information processing. Educators are expected to assist with closing the digital divide between subpopulations of students to ensure adequate equity and to provide them with the opportunity to compete on a global scale post-secondary education. However, the question became that of how prepared faculty for the immense expectations were that the reality of the pandemic created.

On the other hand, companies are seeking digitally literate employees to help them maximize production, create new products, and manage the daily business operations. Students need to be well versed in digital literacy tools and systems management databases to support companies and businesses within our society. Faculty must know how to successfully integrate technology with pedagogy to not only engage students, but to ensure students can effectively use digital tools to support the workplace and businesses for centuries to come. Even entrepreneurs use digital literacy to promote and sustain their businesses. Again, we must consider the readiness of faculty with the extent of digital literacy skills that the moment required in the face of the devastating impact of the deadly pandemic. According to Casey and Bruce (2011), "Teaching with digital technology prepares students for future participation in an evolving society where new media practices are deeply embedded in the associated structures and processes". It is important for faculty and students to have competency skills in digital literacy, they noted. "Many established businesses have been uprooted and replaced by automation and digitization systems" (Widana, 2020). Faculty must, therefore, be adaptable towards technology use, be open minded and willing to learn from students, and stay abreast of technological advancements, (Mantiri, Hibbert, & Jacobs, 2019). The reality of Covid-19 has forced faculty to rethink the survival of their curriculum and programs as student enrollment continues to decline. Many faculties are actively collaborating with one another across disciplines to improve online teaching methods. There are opportunities for cooperation, creative solutions and willingness to learn from others and try new tools just as educators, parents and students share similar experiences (Doucet et al., 2020). Many educational organizations in the industries are offering their tools and solutions for free to help support teaching and learning in a more interactive and engaging environment in the face of the pandemic. Exclusive online learning forced on society by the pandemic has provided the opportunity to teach and learn in innovative ways. How prepared are faculty, students, administrators, staff, families, and communities for this challenge?

During this Covid-19 pandemic, the greatest concern remains how to protect and save our faculty, students, staff, administration and the community at large by strengthening the higher education industry. Basilaia et al., 2020 stressed the urgency of mastery of digital literacy tools as a vital response to teaching and learning changes such as the chaos of Covid-19. Faculty are encouraged to focus on how to hone students' technology skills by increasing student engagement, assessment, and feedbacks, thus creating effective and meaningful learning environments (Brianna et al., 2019). The 20 students interviewed by this study during the spring 2020 semester recounted the stress, fear, anxiety, depression, and insomnia that they were dealing with as they studied. Many complained that they had difficulty focusing and concentrating on their coursework. They worried that they would fail their examinations. Favale et al., 2020 concurred and emphasized the challenges of fully online education during crisis such as loss of direct communication and human touch; varied degrees of student capabilities and confidence levels. They stressed that many students do not feel comfortable while learning online thus leading to increased frustration and confusion. Affounneh et al., 2020 cautioned institutions to take account of developing and enhancing the quality of virtual courses delivered during crises. They highlighted the time and cost involved in online education because a considerable amount of investment is needed for

getting the devices and equipment, maintaining the equipment, training the human resources, and developing the online content. The reality is that many faculties and students are from low-income and underrepresented communities. They are faced with financial challenges, lack of access, and affordability issues. Ensuring digital equity becomes an issue with these populations worsened by the Covid-19 pandemic. Effective and efficient educational system needs to be developed to impart teaching and learning via online.

For too many faculties, students, and staff, unavailability of digital tools, internet connections, Wi-Fi, computers, and other educational apps remain a major obstacle to teaching and learning. This continues to exacerbate the digital divide. The Covid-19 pandemic is a wake-up call for institutions of higher education. Many faculties and students have never really practiced fully online teaching and learning. As part of lessons learned from the pandemic, which is still on-going, educators can learn a lot from their experiences since the spring semester of 2020. As a result, colleges and universities can develop step-by-step guidelines on best available tools, how to access such tools, improving curricula, and presenting them in various formats, building in feedbacks, thus improving student success. In today's complex digitally networked environment, the briefly reviewed literature raise pertinent issues: how we teach, how we learn, and how we educate our students in the 21st century. How efficiently have faculty and students adjusted to the sudden pandemic? What educational transformation have occurred and what impact do they have on student success? What provisions are being made for faculty and students to improve their skills? What are the current implications and challenges of digital literacy for students' academic success? This paper presents a preliminary effort at aligning digital literacy and student academic success. The new normal of connected classrooms, networked learning, and digital skills gaps among many faculties and students has made teaching and learning conversations more urgent.

The COVID-19 pandemic led to lockdown and closures of schools, training institutes and higher education facilities in most countries including the United States. There has been a paradigm shift in the way faculty deliver quality education through various online platforms. The online learning, distance and continuing education have become a panacea for this unprecedented global pandemic, despite the challenges posed to both faculty and the students. Transitioning from traditional face-to-face learning to online learning posed an entirely different experience for both the students and faculty with little or no other alternatives available. There is now a pressing need to innovate and implement alternative educational and assessment strategies (Dhawan, 2020). E-learning tools have played a crucial role during this pandemic, helping colleges and universities to facilitate student learning during the forced closures (Subedi et al., 2020). Most students with a fixed mindset of education and learning found it difficult to adapt and adjust, while the students with a growth mindset quickly adapted to the new learning environment. Many students at home and/or living space have undergone psychological and emotional distress and have been unable to engage productively with coursework (Petrie, 2020). According to Murgatroid, 2020, the following broadly identified challenges with e-learning are accessibility, affordability, flexibility, learning pedagogy, life-long learning and educational policy. Also, the study noted that there are practical issues around physical workspaces conducive to different ways of learning. Many students were among the most vulnerable group who were weak in learning and continue to face difficulties. Some academically competent learners from poor background are unable to access and afford online learning (Sintema, 2020).

Cluver et al. 2020 noted that not only did students lack daily access to their campuses and the basic institutional supports that institutions provide, but they also lost out on group activities, team sports, and recreational options such as pools and gyms. Hodges et al. 2020 observed that what we know from research is that effective online learning results from careful instructional design and planning, using a systematic model for design and development. The design process and the careful consideration of different design decisions have an impact on the quality of the instruction. They suggested that it is this careful design process that is missing during the Covid-19 pandemic. As Hodges et al., 2020 emphasized when exploring how colleges and universities were coping with the sudden and rapid shift to remote learning, understanding the current circumstances required distinguishing between online or remote learning generally. They also noted that weak systems of support, including lack of professional

development on how to integrate computers into instruction, have left faculty less than optimally equipped to teach during the pandemic.

In addition, Anderson 2020; Azzi-Hucktigran and Shmis 2020, noted that a certain level of preparedness is critical in order to provide an effective response at the onset of a crisis, and to “prepare, cope, and recover”. They noted that the COVID-19 crisis has exacerbated the well-documented opportunity and enrichment gaps that put low-income students at a disadvantage relative to their better-off peers. They also discuss how the pandemic has exacerbated the limitations of standardized assessments, especially when used to measure performance gaps in education. All of the above challenges, mean more stress for students. For those students who were already living in cramped and less-than-ideal situations, having all family members in the house makes the regular challenges of daily life much greater and learning more difficult. Increased incidences of abuse due to confinement, stress, and lack of access to outside support further affirm the urgency of addressing the stressors that are affecting families and, in turn, student’s development and ability to learn (Stratford 2020; and Greeley 2020). It is in these challenging contexts of economic insecurity and housing instability that students and faculty were suddenly transitioning to remote learning. Black and Hispanic students are more likely to lack this access according to García, Weiss, and Engdahl 2020; Tinubu Ali and Herrera 2020. A Southern Education Foundation report on class- and race-based disparities during the COVID-19 crisis finds similar disparities in access to the resources needed for online learning. It notes that nearly one in five African American students and a slightly greater share of students in low-income households have no access to the internet at home (Tinubu Ali and Herrera 2020). It is against the background of all the above challenges that this paper attempts to study ways to better align digital literacy education, its tools, and student academic success. The paper hopes to highlight the needs of closing existing digital literacy education gaps among students particularly those from low-income and underrepresented communities.

Research Methodology

The present work is an exploratory research based on investigative techniques. It is a fundamental and qualitative research which explores the current knowledge on digital literacy and its impact on student academic success during the Covid-19 pandemic. Existing literature on digital literacy was reviewed to gain a general understanding of various aspects of the concept and helpful takeaways. A preliminary survey of 20 face-to-face students was also conducted to understand their experiences during the mandated fully online learning in spring of 2020. As courses remain online, it is critical for higher education institutions to seek to better understand what students believe they need to be successful and engaged. Consequently, this paper interviewed the 20 students to hear their voices with regards to their quest for academic success. The Covid-19 pandemic that necessitated a shift from face-to-face to fully online has presented colleges and universities with the challenge of transferring hands-on learning experiences to an online format that needs to survive by being collaborative and rigorous enough to prepare students for real-world application despite the pandemic. The students’ voices, expectations, and ideas deserve to be heard and the industries demand it. This paper is an initial insight into an attempt at aligning student digital literacy skills requirements and success in their academic pursuit during Covid-19 pandemic.

Discussion

Many colleges and universities around the world temporarily postponed classroom teaching and learning as a result of the spread of the Covid-19 pandemic. Teaching and learning activities were then subsequently changed from predominantly face-to-face instructions to fully online. Twenty students in the School of Business, Medgar Evers College of the City University of New York were interviewed in this preliminary study. Of the 20 students interviewed, 13 (65%) were full-time and 7(35%) were part-time. The age distribution of the participants was as follows: 18-25 (5 students); 26-35 (6 students); and 36-45 (9 students). 10 of the students lived in Brooklyn; 6 lived in the Bronx; and 4 students lived in Queens. All the students reported that taking fully online courses had a negative effect on them and they were afraid that they were going to fail their tests and examinations. Some of the students said that they were thinking of dropping out of school because they felt overwhelmed. 9 (45%) of the students used their smart phones to access the course materials online; 6 (30%) used laptops, while 5 (25%) shared personal computers with

other members of their families. These responses were similar to the study by Lazarus et al. (2017) who showed that the most popular device that students used to access the online materials was the smart phone followed by laptop, while the least used tool was the personal computer. Many of the respondents mentioned that their studies were constantly interrupted because the devices did not work causing them to miss deadlines or repeat assignments. As a result of these reported interruptions, some respondents informed us that they had to go to the homes of friends and relatives to complete some of their assignments. Others reported going to public places to use the internet for course work. This presented instances of unequal access to computers and the internet thus altering the effectiveness of their learning. Of the 20 respondents, 10 (50%) reported that they were greatly affected by the Covid-19 pandemic; 7 (35%) said that they were considerably affected; and 3 (15%) reported that they were slightly affected. None of the 20 students reported that they were not negatively affected by the pandemic. 8 (40%) of the respondents reported that their instructors used Zoom as the means of delivery of their virtual class sessions; while 12 (60%) reported that their instructors used Blackboard. They reported that they had access to recorded materials if they missed classes which was very helpful to them.

The most common problems reported by the students included the lack of availability of internet when they needed it most, and the interruptions in speed. Many of the students reported that they could not afford the cost of internet, and that they suffered from lack of availability of electronic devices to access the internet. Another major problem that the students reported was that they missed the face-to-face interactions with their professors and classmates. They mentioned that learning online felt unreal and very artificial. When pushed to explain what they meant by "artificial", they replied that teaching and learning was not the same as when they came to class. When asked to summarize what challenges they were experiencing with their classes, their final responses included internet interruptions; cost of devices and hardware; access to the internet; loneliness due to little or no interactions between students and the instructors; little or no feedback from some instructors; easy to fall asleep while attempting to study; and panic, frustrations, and low self-esteem. When asked what can faculty or the College do to help them succeed academically, their replies included reduce stress by assigning fewer coursework; provide computers, laptops, and IPADs for students; faculty should be more patient with students; faculty should explain their assignments more; faculty should review tests and examinations before posting the assignments; the College should train the faculty on online skills so that they can better assist the students; and the College should provide more resources to students that can make course materials more accessible. When the students were asked what factors, they considered to be the main drivers of academic success, they mentioned hands-on instruction (83%), faculty quality (81%), and technology availability (87%). From the students' perspective, digital literacy and its tools forced on education by the crisis has resulted in changes to instructional delivery that are here to stay. The students reported that they liked learning online, but they wanted to be trained to use the tools first before doing the assignments. Most of the students sounded enthusiastic. The reality of Covid-19 has made it to become evident to institutions of higher learning that connecting faculty and students with technology and helping students connect with the job markets is essential to both the success of students as well as the success of colleges and universities themselves. Most proposed new programs now focus on enabling faculty, technologists, instructional designers, and administrators to collaborate to forge a pathway to the future, celebrating and supporting each other and their students along the way.

This paper discusses the indispensable value of building computer and digital literacy training into all undergraduate curricula. We argue that programs may want to consider mandated computer and digital literacy exit skills assessment test for all graduating students irrespective of their discipline. This will guarantee readiness for any sudden changes such as the Covid-19 pandemic. We also make the case for increased institutional investment in faculty training in computer and digital literacy readiness. This is because armed with such skills, faculty will be ready to transfer what they know to their students. There are a number of remedies suggested in the above reviewed literatures to address the speed of advancement in technology and faculty and student functional mastery of basic computer and digital literacy skills. We conclude that all institutions must be proactive rather than reactive to systemic shocks by preparing students for academic success and technological readiness for today's job markets. This paper makes the case for preparedness of students to meet the needs of technology jobs by mandating and

aligning digital literacy and student success. We argue that there is an urgent need to create a culture of digital literacy learning, collaboration, and sharing among educators, students, families, and the communities. Therefore, to meet the industry expectations, colleges and universities need to integrate digital literacy competencies into the various curricula. Intentional instructional practices that enhance learning and engagement among faculty, students, staff, administrators, and the community are required for the survival of teaching and learning in particular, and the institutions of higher education in general. Realizing this, many colleges and universities are providing loaner equipment such as laptops, PCs, iPads, and other resources but the demand far exceed the current supply. In addition, faculty development trainers are using digital literacy concepts to train new faculty who will coordinate online teaching and learning. More needs to be done as the students' academic success depends on the institutional success.

Since the pandemic affected all units in the institutions, there is a great need for support, collaboration, and a multi-disciplinary approach to understanding and learning the necessary knowledge and skills required to fully participate in the digital age. Embracing such a culture by all educators will knock down feelings of isolation among faculty and encourage more cross-disciplinary engagement and collaboration. Resources such as intentional digital skills development and training; increase in creative hands-on activities; engaging the students; assessing the engagement exercises; and using the feedback from the assessment to revise the curricula are in urgent need. Institutions of higher education need to increase the development of opportunities that encourage faculty collaboration; sharing of ideas among colleagues; networking and professional relationships; and measurable action steps that can be duplicated. The affordability and accessibility to online infrastructures for all students of varied economic backgrounds are still a challenge and need to be expanded. Students with special needs having learning difficulties, such as hearing impairment, visual impairment and mobility disabilities, require additional funding for training with support and guidance. The demand for support for these group of students remain great and hinder the learning of this group of students especially during the Covid-19 pandemic. Another key point is that faculty are concerned about plagiarism and other forms of cheating as all students' assignments and examinations are carried out from home. It is challenging to find the authenticity of the work and the actual learning taking place. Colleges and universities need to invest in assessment tools that will increase faculty confidence in the authenticity of students' work.

Conclusions and Suggestions for Further Studies

The current study is preliminary and have shown that COVID-19 pandemic lockdown affected the academic performance of students in various institutions of higher education. Faculty and students were forced to use online education to keep the art of teaching and learning up and running. It has not been easy for the students, faculty, staff, administration, families, and the communities. However, the main challenge and impact falls more on students whose future depends on their performances. Since most of the learning is assessed semester-by-semester, time is of great essence for the students because it is very costly to repeat semester's work due to no fault of theirs. Many of them did not choose fully online learning. The students' overall GPA for 2019-2020 academic year and the 2020- 2021 academic year may be negatively impacted by the pandemic. The frustrations and stress if not addressed may negatively impact the student enrollment in institutions of higher education. The question then becomes what faculty as a group is willing to do about these out cries from our students and some faculty.

Our profession cannot survive empty classrooms if the student enrollment declines are not addressed. Planning, monitoring, assessment, training, collaboration, networking, adequate technical support, and sharing is the answer. Embracing digital literacy education and the relevant tools as the culture by all involved in the business of education may guarantee the provision of the skills to withstand most future random systemic shocks. Based on this preliminary study, students think that it is difficult to fulfill the academic competencies with only online education. They would prefer a combination of both online and face-to-face education. Based upon faculty responses, many would use hybrid pedagogy embracing the best aspects of both worlds, thus engaging students in face-to-face class sessions while employing digital literacy tools to enhance teaching and learning. By so doing, students will benefit from both world of educational practices and therefore increase their academic successes. In the end, we may successfully align digital literacy and its tools with increased student academic success. Time and further research will provide evidence. Furthermore, we can increase our knowledge by revisiting these 20

students and checking their grades from Spring 2020 and Fall 2020 to see if their fears and concerns about their grades were founded. Moving forward, Covid-19 pandemic has taught us that technology is key to communication and continued teaching and learning in the era of severe economic shocks. Schools of business and other units must become more resilient to functional online teaching and learning. Consequently, a robust digital literacy and tools acquisition must be fundamental and a prerequisite for all curricula. Such digital literacy infrastructure must be so strong that it can withstand all crises. Both faculty and students must undergo pre- and post-digital skills mastery tests that demonstrate such competency.

Further exploration and investigation on the alignment of digital literacy and student academic success during Covid-19 pandemic is an area for more research. The affordability and accessibility for all the students of varied economic background is identified as a challenge, for which the educational tools developer could focus on improving by producing cheaper but effective alternatives. Institutional administration policy level intervention and support are fundamental to the success of any programs, strategies, and activities. Making online teaching creative, innovative, affordable and interactive through user-friendly tools is another area for more research and development. One of the lessons learnt from the COVID-19 pandemic is that faculty and students should embrace change and be oriented on use of different online educational tools. As a result, after the COVID-19 pandemic when normal classes resume, faculty and students should be encouraged to continue using such digital literacy tools to enhance teaching and learning. This should be a win-win scenario for all involved in the business of education.

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The future of work: Remote work in the emerging new normal

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Abstract

What HRM structures and schedules are most likely to characterize the post-pandemic period? This paper, taking a multidisciplinary approach to the analysis of the future of work and hybridized workforces, straddles the fields of HRM, business economics, and organizational behavior. It seeks to provide insights into the evolving post-pandemic's new normal. The gains from the vaccination efforts in the US, in particular, are leading to shifts from the pandemic's dismissal as a short-term phenomenon, to one that is now manageable. This paper, hence, analyzes the emerging trends and patterns that will most likely influence and shape the use of the human resource in companies, especially within the United States of America. It highlights the various discovered types, intensities, modalities, related to a range of worker types and work conditions associated with hybridized HRM, and the expected patterns and changes in employer-employee relationships likely to be maintained or expanded, that, informed by the Gratton framework of time and place. The paper maintains that not all work types are suitable for remote work. Additionally, certain gender biases are retained in the pandemic induced HRM hybrid models, while some are even reinforced. New work-life balance issues have also entered into work structuring and scheduling arrangements, with implications for the education attainment of the young, especially if, for example, hybrid education delivery becomes more widespread. The paper concludes with suggested research recommendations prompted by the pandemic's activated sectoral labor supply challenges.

1. Introduction

Whether it is called long-distance working, *working from home* (WFH) (see Sawhney, 2021), telecommuting, *working from anywhere* (WFA) or *working from office* (WFO) (see Gratton, 2021), telework, or remote work; depending on who is the speaker, some might regard it as an aberration (K@W, 2020), while others see it as a revolution (see Neeley, 2021). Throughout the several waves of the pandemic, acceptance and adoption of variations of hybrid models of in-person and remote work by companies have become the norm. A remote work survey in 2021 reported that 82% of American-based companies were planning to implement indefinite WFH models, while 77% wanted to make WFH permanent (Simform, 2021). In the context of the waning of the pandemic, which forms the backcloth to the emerging new normal, a V-shaped economic recovery is seemingly gaining steam in the US economy, with an expectation of a near annual 6% GDP growth rate, after the pandemic-induced economic decline. Since the Biden Administration's rescue plan, the labor market has generally been positive, with the unemployment rate tracking down to 6.0 percent (BLS, 2021). Related background information suggests an inflation rate higher than the Federal Reserve's 2% target, with expectations of an increase, but no runaway inflation in the short- to medium-term period.

In terms of methodology, this paper has been assembled from many secondary sources. However, the information gathered and presented, intends the provision of some insights regarding an improvement in the understanding of emerging trends in, the rationale for the variations in hybrid work models in place and declarations to formally adopt or to extend what is already in place. In addition, it seeks to address the likelihood of the retention of elements of the various HRM models, going into the future, in their entirety or in combination, as influenced by the control of the pandemic.

As such, this paper examines some of the concepts associated with the hybrid models created or intended by various firms. This is covered in the upcoming section. Following this is a very brief presentation of the nature, range and plans for the adoption of the hybrid HR utilization model in various industries and economic sectors mainly in the US. The review is not based on a company list that claims to

be exhaustive nor comprehensive. The next section discusses some of the upsides and downsides of existing hybrid models. The paper concludes with some research recommendations regarding the road ahead.

2. Conceptual Framework: Understanding Workforce Hybridity

The forced decentralized approach to the use of HR or the hybridity models of HR utilization, display a range of workforce members working remotely and at home, informed by employer needs and experience with the pandemic. Retention of some elements of existing models is generally assumed. The current levels and the degree of the intensity of adoption are not. Therefore, hybridization represents a mix of in-person and remote workers in a workforce, working synchronously or asynchronously, lying at some intersection of time and place (see Gratton, 2021). If effectively executed it is argued, a hybrid future will redound on both the workers and their employers, allowing for a more purposeful work-life, greater flexibility, improved agility, and enhanced productivity. Increasingly, for some companies, however, a more formal adoption is regarded as a given. For example, and for certain businesses, culturally speaking, work-at-home Fridays can become the norm, but at the same time ensuring that one day in the workweek is set aside where staff can all be present in person (if necessary) within a certain time window. In this regard, a number of firms have taken concrete steps to plan for the formal adoption of the hybrid HRM model with the controlled reopening of the US economy (K@W, 2021; Neeley, 2021).

Gratton (2021) contends that conceptually, hybrid workforces as suggested earlier, can be designed in terms of *place* and *time*. The associated four-quadrant analytical framework places time on one axis, and place on the other. Here, place refers to the workforce being *place-constrained*, meaning, working in-person from the office (WFO, work-from-office workers, or WFOs) (see Choudhury et al., 2019). At the polar opposite end, the HR is *place-unconstrained* (WFA, work-from-anywhere workers, or WFAs) or teleworking. Regarding time, employees are more *time-constrained*, that is having to work with others, at the same time. Workers, too, can be *time unconstrained*. These are the ATWs (anytime workers). They could be working asynchronously at different times (working with others, but even in different time zones), or whenever they please, such as those in gigging work relationships (domestically or internationally), passing on semifinished work to others for completion in other time zones. For those who can work as part-time independent contractors, in particular, remote work offers the opportunity for international gigging. This especially allows for employers pre-pandemically and post-pandemically, to choose from a wider pool of talented workers from anywhere around the world (see Best, 2017).

Figure 1 below, adapted from the Gratton (2021) time and place framework, from O'Hara (2014), and from Sawhney (2021) takes a more focused labor utilization or employment perspective, to specifically isolate various worker types and characteristics, based on the working and contractual relationships between employers and employees, by firms forced to follow a more or less formal hybrid HRM employment strategy. It reclassifies workers as work-from-office workers, or WFO workers (WFOs), and work-from-anywhere workers, WFA workers (WFAs), with finer distinctions being made according to the times those workers are either expected or required to be at their jobs. Quadrant #1 in the figure, therefore, shows the traditional and largely pre-pandemic (9-to-5) FTWs (fixed-time workers), made up of regular workers who "report" to work (sometimes by logging in), as members of in-person teams, part-time, and gigging C-suite workers. It is noteworthy that gigging has moved into the C-suite, as some companies have been employing temporary and part-time workers at the C-suite level, sometimes showing up for three out of five days per workweek, even before the onset of the pandemic. This pattern is very likely to persist in the post-pandemic period, even as WFA workers (see Best 2017; Kalita, 2021).

Quadrant #2, following Gratton's constrained time but unconstrained place classification, points to working conditions for today's hybrid workers who complete 9-to-5 worktime schedules as fixed-time workers (FTWs), but working from anywhere, (sometimes referred to as WFH and WFA workers). These could be regular employees, part-time workers, and virtual teams on the regular payroll of companies. Quadrant #3 in the figure identifies the hybrid worker types that are unconstrained by time, but are constrained by place, as would be in the Gratton (2021) framework. Such workers are constrained to work at the office (WFO), but theoretically can work there at any time (anytime workers, or AWs). Worker types that belong in this group can include regular workers (employees with normal psychological contracts), in-person teams, part-time workers and gig workers. Finally, workers in Quadrant #4 would include

those workers who may be forced, or have elected to work anytime (anytime workers, or AWs) and from anywhere WFAs (work from anywhere) as found in the Gratton's unconstrained time and unconstrained place framework. In this group, one would expect to find virtual teams (domestic and international), some part-time and contract workers, independent contractors, and gig workers (domestic and especially international) such as Uber drivers.

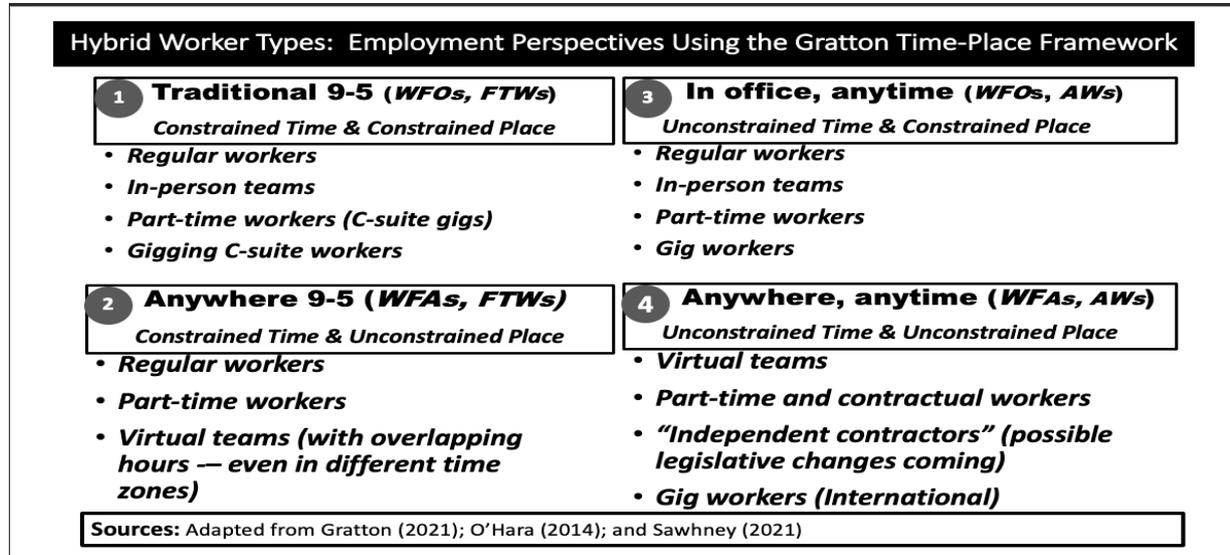


Figure 1: Sources: Adapted from Gratton (2021); O’Hara (2014); and Sawhney (2021)

In addition to the perspectives with respect to time and place, two other key factors operating in hybrid environments are: a) *hybridity positioning*, and b) *hybridity competence*. Mortensen & Haas (2021) maintain that key sources of power and influence, emerging from access to resources and different levels of visibility, depend on hybrid positioning. The authors also contend that with respect to *hybridity competence*, operating effectively in a hybrid environment becomes a source of power, as it is a skill in and of itself. Additionally, those with the ability to work in such a workforce, may well outperform those recognized as having “advantaged positions,” if in the low visibility parts of the workforce, they show others that they are trustworthy.

3. Some Factors Shaping the New Normal

A number of factors and developments for economic, technological, and for political and security reasons are expected to influence greatly, future hybrid work patterns domestically and around the world. Among them are cost savings on office space, the search for productivity increases, the need for agility and flexibility, and the sourcing of talent regarding skill shortages.

Savings Regarding Real Estate Expenditures. In keeping with the company policy change to retaining a significant number of WFH-type workers, a number of firms have been studying their use of real estate in terms of office space in a post-pandemic world. In this regard, Gartner (2021) in a recent survey, anticipates that some companies will be engaging in shared seating.

Table 1 below, without claims to being either exhaustive or comprehensive, attempts to capture some company initiatives, associated industries and/or the related economic sectors around the world. It shows those companies that are in the process of formal workforce hybridization, their plans, or those with intentions to retain some form of hybridization, with some notion of permanence. Nevertheless, the rate and type of adoption of formal hybridization of HRM will depend, in part, on the degree of national control of the spread, and success with population immunity.

| Table 1: Some Companies in Transition to Formal Adoption of Hybridization | | |
|---|------------------------|---|
| <i>Company</i> | <i>Sector/Industry</i> | <i>Action/Activity/Outlook /Plans</i> |
| Google | Media | Advancing moves to bring back workers to the office |
| Facebook, Spotify, Microsoft, Salesforce, Twitter, and Slack | Social Media | Rolled out plans for a long-term remote workforce by the end just 2021 Thiefels (2021). |
| CDLP (Stokholm) | Fashion | Restructuring to locate 50% remote workers around the world |
| J P Morgan Chase | Banking | Considering a permanently remote workforce |
| UBS (Switzerland) | Wealth Management | One-third of employees to work remotely permanently |
| PSA Group (Europe) | Car (Auto) | Non-production staff to shift to remote work (agility strategy) |
| Box | Internet | 15% of workforce post-pandemically on full-time basis |
| Coinbase | Finance | Anticipates 20-60% and more over time remote workers, with restrictions lifted |
| Nielson | Media | Staff complement of 3000 will work mostly from home |
| Nationwide Insurance | Insurance | To transition to remote workers at 16 of its 20 locations |
| Tata Consultancy Services (India) | Services | Anticipates 75% of its workforce to be working remotely by 2025 |
| Sources: Neeley (2021), Thiefels (2021) and Clayton (2021) | | |

The Working from Home (WFH) Option. For O'Hara (2014) this includes the benefits of: a) flexibility, b) autonomy, and c) the comfort of working in one's own surroundings, among other things. However, there are upsides and downsides associated with extended periods using the WFH option. Sawhney (2021) maintains that some of the by-products of such work environments include monotony, social isolation and burnout. Granted the new hybrid forms with multi-located parts of a company's workforce, post-pandemic hybrid HRM is expected to undergo several changes. However, research shows that a work setting suitable for remote work has to be fairly independent, and at the same time, employees need to have the knowledge base to do their work well. In such situations, both the employers and employees stand to benefit from the job relationships (Choudhury et al., 2019; Mortensen & Haas, 2021).

Work Performance and Productivity Improvements. The change to greater work flexibility has had a positive impact on productivity, depending on the business type. Neeley (2021) for example, states that J P Morgan Chase experienced a three-fold increase in worker productivity from its traders working from home. Moss (2018) states that for working parents with children, job flexibility, where workers can choose the place and set their own working hours, (combined, WFA, and AWs situations in Quadrant #4 in Figure 1 above) have been found not only to increase gratitude, but also to improve job satisfaction, coupled with stress reduction. Here too, employees are able to experience cost savings with respect to commutes and childcare (Carucci, 2021). There is also the expectation of increased worker retention and motivation. The WFA (working from anywhere) remote work variant, too, has the potential to extend the careers of valued employees, encouraging them to remain with companies. By so doing, these older employees can pass on their organizational memory to younger workers, as the former move on to more favorable climatic areas in keeping with their health demands (Choudhury et al., 2019). Therefore, intergenerational mentoring remains a potentially positive holdover in the post-pandemic future.

4. Remote Work in the New Normal: Some Potential Downsides

Work-Life Separation and Work-Life Balance. Given today's labor market conditions, at what levels might office workers, in particular, be willing to return to work in a post-pandemic world? In this regard, some studies have concluded that teleworking loses its appeal in winter. In addition, for workers with a preference for strict segmentation of work and life, work-life balance remains an important issue. This has special implications for the scheduling and structure of remote work. Perhaps as segments, 55% of persons in a recent study felt an inability to balance their work and home lives. For some workers, too, there is a preference for a return to work for three days per week. Others want the option of being at

home, at least one day during the workweek. However, pre-pandemic workplace gender and equity issues are likely to persist. Women, more than men, appear to have a preference to work from home. Yet, if managers continue to give preferences to those who they see, then women will correspondingly pay a career price (see *The Economist*, 2021).

Teleworking can cut both ways. It must therefore be recognized, that one of the downsides of teleworking or working from home can also be productivity. Some workers in the current climate face an uphill battle to stay focused on tasks at hand, in addition to remaining highly motivated when home becomes the office or the workspace. For managers then, the challenge is to keep workers motivated and to monitor them from a distance. With WFH workers, the lack of co-worker proximity too, means that employees lose the benefits of the creative conversational exchanges that occur (say) at the water cooler, or along corridors, forfeiting potential serendipities. Even with the best streaming and conferencing media tools available on the market today, reportedly, it requires more assertive behavior on the part of some workers for them to remain mindful that some audience members are indeed part of the workforce. Therefore, those who work as teleworkers are very likely to suffer in the absence of facetime with others working under similar conditions with managers, reinforcing some of the negative influences on their promotion and their careers (see Morgan, 2021). For some, too, a sense of never being at the workplace can also translate into one of forever being at the workplace (Neeley, 2021; Tugan, 2020).

Burnout. Albeit, not peculiar to, or essentially tied to remote work *per se*, another downside associated with teleworking, is burnout. With or without a pandemic, burnout is a potential threat to work-life. For some occupations, the pandemic has increased the incidence of burnout. To compensate for some of the disadvantages of working remotely, some workers may engage in overcommitment resulting in burnout. If the incidence of burnout remains at, or goes beyond current levels going into the future, this must be addressed very seriously. Whereas research points to burnout as being a problem tilted towards the organization, more than being an employee's problem, it behooves all employees to engage in preventative steps to avoid it. Besides, recovery requires teasing out and addressing its components. Therefore, in the interest of recovery, researchers have identified three symptoms that may appear singly or in combination. Viewed as resources, the first is *exhaustion*, which is a reduction in mental or physical resources. A second can be *cynical detachment* which is described as a reduction in social connectedness. The third is a *reduced sense of efficacy* or an erosion of value for oneself. In the WFH environment, to recover from burnout, employees need to assess which of the resources have fallen sharply and return each to acceptable levels (Heng & Schabran, 2021; Neeley, 2021; Sawhney, 2021; Tugan, 2020). It follows therefore, that burnout will remain an expected characteristic of the workforce's new normal.

Teams and Teamwork. Deployment of a more formalized hybrid HRM model also affects teams and teamwork. One drawback relates to the allocation of responsibility for positive organizational outcomes. Current remote work arrangements if maintained, would see the persistence of the tendency to give greater credit for a collective output to those who are more visible by virtue of being there in the office. Hybrid settings, if maintained, are also linked to power differentials created within teams (Mortensen & Haas, 2021).

Nevertheless, companies have always operated with teams, especially in the execution of high technology projects. Witness the participation of several companies, on a global scale, in the assembly of new models of aircraft, for example. It is of import to note too, that the disruption caused by the pandemic to the global medical supply chain has forced a re-examination of lean production strategy, bringing some elements of production back to workers in the US, with implications for employment, and labor cost. The skills gap, nevertheless, persists. The workforce conditions imposed on companies by the pandemic in many parts of the world have resulted in networks of individuals operating as virtual teams. Teams, however, have their own peculiar set of challenges. Whereas telework does have its positive effects, one of its drawbacks with respect to its use with teams going forward, can be its impact on trust and psychological safety. Persistence with workforces lacking in-person interaction can rob some employees of the confidence, that they can let their voices be heard without fear of humiliation and punishment with respect to work content especially (see Edmondson & Mortensen, 2021).

Taxation and Living Expenses. In the US, taxation levels differ from state to state. Work from anywhere or WFA as company policy, does permit employees to work from different counties or states as

a matter of choice, as individuals or as team members. The pandemic however, forced the decision on some workers to have their workplaces in different states of the US, while sheltering from less seriously COVID-19-affected cities in other states (see Choudhury et al., 2019). For some workers, the taxation implications regarding residence may have to be taken on board. Double residency may mean “double taxation” of a single income.

Using geographically dispersed teams as a strategy to get closer to their markets, Sun Micro Systems reportedly saved half a billion dollars, utilizing a voluntary virtual work program (Neeley, 2021). Even for those facing the hardships of the pandemic, remote work in some cases, could have translated to a lower cost of living, with the exception of price increases regarding certain products. Some employees, if they were forced to live in certain low-cost areas closer to parents, they could have realized a *real* salary increase, and at no financial cost to their employers (see Choudhury et al., 2019).

Telework and Education. Although not all of the damage may be attributed to remote teaching, however, its use in combination with other factors have been associated with negative outcomes for some students in the American school system. At least one large school district reported an increase, way above the norm, in the number of F grades usually awarded. In this regard, it might be said, that remote teaching as a work category, has been found not to be a perfect substitute for in-person delivery. The State of Connecticut witnessed, for example, “F” grades being returned at four times the normal rate (Parish, 2021). Yet, hybrid (in-person and streaming) delivery of education may---in the short term---be one of the characteristics of the new work norm in education.

5. Discussion

As suggested above, there exists a lingering mismatch in terms of the demand for labor and availability of certain skills that existed in certain sectors of the US economy even before the pandemic. This bottleneck will continue to exert pressure on the cost of labor. Certain companies have already adopted a policy of involvement with certain schools to train would-be employees to close the skills gap. The new normal may also witness employee departures for entirely new job types. Such action might just be coming from those who consider themselves to be working too hard under current conditions such as, those being paid less than a living wage. Witness McDonald’s recent wage increase response to its labor supply shortage. Current hybrid models, too, apparently remain very unfavorable to women with respect to careers (see The Economist, 2021). Yet, any near-term mitigation of some of the inherent biases against working mothers seems to depend on national vaccination efforts, addressing hesitancy, and the reopening of schools and restaurants, as they all appear to have some impact on the willingness of women to return to work in-person, as part of the workforce. On the other hand, some aspects of the short-term labor market shortages for some categories of workers may be a function of the absence of fair-market wages in some sectors, and not a COVID-19-induced fear of the in-person workplace as such.

6. Conclusion

Gains made in the vaccination efforts in the US, in particular, are leading some actors to shift their view of the pandemic as a short-term phenomenon, to one that is now manageable. The future of work, therefore, calls for increasing adaptation on the part of both managers and their employees, as HRM becomes more formally and strategically decentralized. Workers are expected to continue to work from the office (the WFOs) or from anywhere (WFAs), from the office (the 9-to-5s from the office, the WFOs), from home (the WFHs) and at any time (as ATWs) and from anywhere (the WFAs).

Generally speaking, blue-collar workers may not have too much choice regarding being either WFH or WFA employees, while white collar workers may continue to move into the gigging WFA economy. Some might engage in such part-time and remote work activity, just because it offers a source of supplementary income. Vaccination success and the termination of the unemployment insurance element of the stimulus package should mitigate some labor supply bottlenecks. Therefore, policies must be put into place to discourage vaccine hesitancy in the short term, on the part of those reluctant to return to their pre-pandemic in-person workplaces, because of safety and conditions of work issues. Recognition, too, must be given to some of the forces at play working against those who are less visible, or who will have chosen the WFH option. This may be overcome with trust. Research efforts, therefore, need to discover the extent to which the quality of work-life has changed, since the need for greater recognition of non-work

issues like family and parenting entered into the picture, with respect to structuring and scheduling in today's hybrid workforce models. It follows then, that those companies that have not addressed most of the remote work issues, however, will face increasingly, labor market forces and calls regarding agility, skill scarcity, flexibility, and then the new needs of psychological safety regarding WFH and WFA workers, in particular. Companies too, will have to revisit and modify dynamically, their HRM policies. Future research regarding remote work will also have to address the challenges of the new work-life balance issues. These would involve families, elderly parents and school-age children, where some schools may have adopted short-term, or even long-term, hybrid teaching modalities. Research is also needed regarding the movement of different worker types along the time and place options selected, with respect to specific occupations and industries. Then, there is too, the need to study the ramifications of the wage price adjustments on the cost of labor, as led by Amazon and McDonald's on the broader demand for labor. Last, but not least, is the need to study the role of the increasing incorporation of AI into decision making, man-machine work teams in the production of goods and services regarding supply chain operations and the impact of the above on HRM, in an increasingly technology-driven and competitive global marketplace.

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Innovating the Design and Implementation of an Integrated and Sustainable Waste Management System (ISWMS)-A hybrid approach

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Keywords

Integrated and Sustainable Waste Management System, hybrid approach, Community-led Innovation, policy/regulatory changes, action research methods, demonstrating project

Abstract

The paper proposes a hybrid approach to design and implement an integrated and sustainable waste management system that is carbon-efficient and cost-effective. This system will bring benefits for socially and economically disadvantaged communities. Former research has shown that relying only on a bottom-up approach might fail to resolve conflicts and garner for sufficient external resource support; relying merely on top-down approach could fail to obtain community's trusts and sustain the system. The paper suggests combining community-led innovation and top-down policy/regulatory changes to avoid the tension. The paper recommends using both academic and action research methods to design and implement such a system. As for the academic research method, the paper suggests conducting institutional and stakeholder analysis. As for the action research method, the paper suggests assisting the target communities to establish and utilize an inclusive and adaptive governance structure, in order to mobilize social, political and economic resources.

Why do we need an ISWMS?

Due to the climate change concern and political commitment to reduce carbon emission, the waste reduction and recycling have received increasing attention, and been developed into a financially viable industry estimated to be worthy of US\$ 2,149.6 billion by 2027. Many new jobs can be created in labor intensive waste recycling industries (e.g., textile recycling). For instance, in the EU, recycling 115 million tons of textiles, including woods, ferrous and non-ferrous metals, plastic, paper, bio-waste, and glasses, can create 160,900 indirect and 80,400 induced jobs (Leblanc 2019).

Designing and implementing an integrated and sustainable waste management system (ISWMS) is an innovative approach for waste reduction and recycling. Waste reduction and recycling has attracted rising interests of many academic journals to such as Journal of Cleaner Production, Risk Analysis, Lancet, Policy Studies Journal, Urban Studies, Waste Management, Nature, Journal of Hazardous Materials, Water Resource Management, Journal of Corporate Real Estate, Sustainable Development, Environmental and Earth Law Journal, Sustainability, Worldwide wastes: Journal of Interdisciplinary Studies, Resources, Conservation and Recycling. Many international conferences about waste management have been emerging, Waste Management Conferences, Sustainable Waste Management Conference, and International Conference on Waste Management and the Environment.

An ISWMS has great potential to have positive social, economic and political impacts

- Socially, it can change public perception of wastes as something to be disposed to those as valuable 'resources'. It can create new knowledge that changes the organization of social life. It will improve the eco-environment and reduce the long-term public health risks in a wholistic manner.
- Economically, it can generate income from wastes, create new jobs for graduate students and unemployed people, and can reduce the cost of living and the cost of public services. It can attract investment and entrepreneurship for developing affordable technology for local communities and later expanding service markets beyond the local communities.
- Politically, an ISWMS will enhance public support for waste reduction regulations that make businesses, public organizations and individual citizens internalize the costs of waste management, and ultimately change their preferences and behaviors in the production, delivery and consumption of services and goods.

What is an ISWMS?

An integrated and sustainable waste management system has the following attributes:

- It is tailored to the local community needs, with effects of retaining existing jobs, improve job conditions and creating new quality job opportunities for people with disadvantaged social-economic status.
- It balances considerations of carbon-emission minimization, cost-efficiency, labor welfare and community stakeholder satisfaction.
- Political/administrative/knowledge institutions that stand in the way of its smooth implementation, such as public attitudes and preferences, waste management policy regimes and regulatory framework, need to be understood and changed.
- It educates and trains the interested public to scale up the innovation.

How can an ISWMS work?

The challenges of waste reduction and recycling include obtaining political and social support of siting, building infrastructure, financial investment and associated regulatory changes. While technically, the hazards of solid and bio waste treatment facilities such as waste-to-energy incinerators in Netherlands, plastic recyclers in Germany (Dobush 2019), bio waste treatment plant in Denmark (Aikan Technology 2021), medical waste treatment plant (Gient 2021), and to a lesser extent the textile recycling factories can be lowered, the high economic costs and uncertainty of risks often deter policymakers from initiating the discussions on controversial decisions.

An effective ISWMS shall involve an open siting process. Such a process was found to be able to garner public support for hazardous waste management facilities. It involves the following steps: (1) establish general environmental criteria, (2) broad public consultation, (3) invitation to participate, (4) consultation with interested communities, (5) site investigations, (6) community referendum, and (7) site decision. If such a process is carried out by an independent task force, is transparent in technological criteria as well as environmental and economic impact, address concerns of and shares decision-making authority with stakeholders involved, the site selection is more likely to be successful (Kuhn and Ballard 1998).

An ISWMS is based on the concept of 'circular economy' where wastes are recycled and recovered for manufacturing new products. The economic benefits a circular economy entails can also enhance the political and social support for the waste management facilities. According to Stahel (2016, p. 435), "a 'circular economy' would turn goods that are at the end of their service life into resources for others, closing loops in industrial ecosystems and minimizing waste. It would change economic logic because it replaces production with sufficiency: reuse what you can, recycle what cannot be reused, repair what is broken, remanufacture what cannot be repaired." According to Kemp and Pearson, a "circular economy" refers to "The production, application or exploitation of a good, service, production process, organizational structure, or management or business method that is novel to the firm or user and which results, throughout its life cycle, in a reduction of environmental risk, pollution and the negative impacts of resource use (including energy use) compared to relevant alternatives" (2007)

Other approaches that can be used in an ISWMS to reduce wastes include "bio-based economy" and "consumer demand management". "Bio-based economy" refers to the use of biomass, such as agriculture crops and residues from industry and agriculture, to substitute fossil fuel materials in economic and social activities (e.g., Sanders and van der Hoeven 2008). "Consumer demand management" refers to prioritizing waste minimization over wastes generation, recycling and disposal in purchase decision-making and household management (Ene 2008; Price and Joseph 2000).

The technological, governance and managerial tools that can be applied in ISWMS have been developed in the areas of zero-waste manufacturing, low-carbon emission building, empowering sustainable grassroots community (Middlemiss and Parrish 2010; Cho and Chae 2016; Sunpreet, Ramakrishna and Gupta 2017). "Zero-waste manufacturing" refers to the manufacturing system that produces goods and fulfills needs without contributing towards wastes. That means, goods and services produced by the manufacturing system can satisfy multi-utilities and be reused reliably and consistently (Singh, Ramakrishna and Gupta 2017).

Smart Manufacturing and Industry 4.0 revolution characteristic of mobile, big data analytics, cloud, 3D printings, cyber-physical production system, can be utilized to integrate and automate waste *resource* management in the customized manufacturing and service production processes (Agolla 2018). Regulations, policies, and economic development models need be innovated to facilitate the application of digital technology (e.g., Artificial Intelligence) compatible with sustainable development goals, such as alleviating poverty and enhancing gender equality.

To adapt producers and users' behavior for an ISWMS, paradigm changes of seeing wastes as 'resources' are needed. Effective regulatory and publicity tools can be adopted to shift the costs of waste management from government to waste producers, and to enhance the perceived fairness of siting waste treatment facilities. For instance, government subsidies and tax concession can be provided to businesses and users who purchase goods and services produced from an ISWMS. The EU frame includes a raw material resource tax, reuse/repair tax relief, and a waste hierarchy tax at the end of life of products (Milius 2021). The positive socio-economic impacts (such as job creation and carbon emission) of shifting waste management cost from government to waste producers can be estimated by comparing effects on different categories of activities (e.g., landfills, incineration) (Rodrigues et al. 2016).

Designing ISWMS

The ISWMS approach seeks to integrate waste resource management facilities/infrastructure in the structure and surrounding area of the buildings. This approach is suitable for places where land is in shortage, and cost of large-scale waste treatment facilities have been high (Fabian and Lou 2019). Although the amount of energy recovered from the large-scale waste incineration facilities can fulfil the on-site heat and electricity requirements, they still need external energy input and increase green gas emission (Iqbal, Zan, Liu and Chen 2019).

An ISWMS requires thorough and careful source separation of wastes before incineration, which can reduce air pollution due to incineration emission. For instance, in Finland and Denmark, organic waste is not allowed to be deposit in the landfills, instead, they are put under the anaerobic treatment and CH₄ emission reduction efficiency is estimated to be 90% compared with landfill treatment (Tuhkanen, Lehtila and Savolainen 1999).

In populated urban areas, an ISWMS requires building small scale waste treatment facilities in each community regardless of their property price. This approach has the following advantages:

- It can garner wider public support and reduce social conflicts because this could be perceived as being fair by lower-income and more populated communities.
- It can reduce carbon emission and air pollution by avoiding the need for long distance transport of the wastes.
- It can utilize the existing spaces of urban areas and reduce the needs for land reclamation for large waste treatment facilities.

The small-scale waste treatment facilities are available from the markets at affordable prices. For instance, mobile and resource-efficient waste incinerators and disinfection machines can be provided by commercial suppliers (e.g., INCINER8, Hengchenghb 2021). They can be purchased in bulk at affordable prices to collect, separate, disinfect and incinerate medical, domestic and food wastes, including contaminated face masks disposed every day to urban dustbins in huge amount after the outbreak of Covid-19.

An ISWMS requires authoritarian waste reduction regulations. In places where tools such as banning micro-plastics and unit pricing waste charging system are adopted, harmful wastes are effectively reduced (Mosquera, 2019). By contrast, in places where such tools are lacking, the recovery rates of municipal solid wastes, domestic waste, and commercial & industrial wastes have been low and declining; the amount of MSW landfill quantities have been rising (Hong Kong Environment Protection Department 2020).

An ISWMS requires installing small scale clean energy generation facilities, equipping sensing-techniques to reduce building energy consumption, and designing water collection, treatment and supply system into the building areas. Such designs can reduce the demand for external energy and water supply, which will be both economically beneficial and environmentally friendly (Aladenola and Adeboye. 2010; Weng and Agarwal 2012; Heiskanen, Nissila and Lovio, 2015). The incineration of wastes

produced by these buildings can be utilized to recover energy. The bottom ash from the incineration can be used to fertilize plantations surrounding the buildings, and to create carbon-efficient cements and valuable metals (e.g., quartz, calcite, gehlenite, and hematite) (Šyca et al. 2020)

An ISWMS uses social media platforms to reduce wastes. The estate management companies can install closed internet networks connecting estate users, buyers and sellers. The networks can be used for multiple types of information exchange and sharing, including selling, buying, borrowing and exchanging household and workplace items, so as to reduce household and business wastes and expenses. In the municipal real estate management approach (vis-à-vis corporate real estate management), the networks of individual estates can be used to enhance user participation in the property management service design and to monitor the service quality, such as designing public spaces for sports, caring and entertaining activities in line with government policy goals (Van den Beemt-Tjeerdsma and Veuger 2016). The internet networks of different estates can be connected, so as to expand the social ties and business networks, to promote information exchange and sharing, and to facilitate collaboration of diverse social groups and organizations (Rodriguez 2011).

A Hybrid Approach of Designing and Implementing ISWMS

Experimenting a demonstration project of ISWMS is recommended. Political environment for imposing waste reduction laws needs be favorable. Support and participation by the general public, the business sector, governing political parties and incumbent political executives and legislators are needed for enacting these laws. To achieve this, the long term social and economic benefits the regulations can bring about need to be shown to these stakeholders.

A hybrid approach combining community-led innovation and top-down policy/regulatory changes can be useful for designing and implementing such a demonstrating project. The project shall fulfil multiple goals of reducing wastes, developing circular economy, improving the health of natural and social environment of the communities. The hybrid approach is systematic and wholistic. Former research has shown that relying only on a bottom-up approach might fail to resolve conflicts, identify feasible technical solutions and garner for external resource support (Horsbøl and Lassen 2012; Lam and Li 2018); relying merely on top-down approach could fail to obtain citizens' trust and mobilize social resources for the ISWMS (Bergmansa et al. 2015).

The demonstrating project is suggested to use both academic and action research methods to design and implement the ISWMS.

As for the academic research methods, the project team can conduct *institutional and stakeholder analysis*, including:

Researching existing regulations, government policies and professional guidelines that will increase wastes, such as food safety regulations (e.g., compulsory disposal of food exceeding the expiry date), public health regulations (e.g., compulsory use of single-use medical equipment and facemasks) and accounting guidelines that are unfriendly to the reuse of products.

Researching the public attitudes towards the ISWMS, including considerations of costs, privacy concerns, priority of service needs, knowledge and perception of health risks associated with the built-in facilities.

Researching the preferences and concerns of government, NGOs and business stakeholders involved in the target communities.

Conducting technical feasibility, legal-risk and cost-effectiveness analysis of the ISWMS.

As for the action research methods, the project team can assist the target communities to take the following actions:

- Set up a governance structure that is inclusive and adaptive to the changing needs of stakeholders.
- Set up the deliberation agenda and decision-making timetable.
- Identify external resources, mobilize internal resources, and search for external experts to conduct cost-benefit analysis.
- Monitor the implementation of the project and evaluate the pre-conceived social, economic and environmental impacts of the project.
- Publicize the project progress, lessons and impacts.

Conclusion

Due to the climate change concern, the waste reduction and recycling have received increasing attention. Designing and implementing an integrated and sustainable waste management system (ISWMS) is an innovative approach for waste reduction and recycling. An ISWMS has great potential to have positive social, economic and political impacts. It is tailored to the local community needs, beneficial to the people with disadvantaged social-economic status; it balances considerations of carbon-emission minimization, cost-efficiency, labor welfare and community stakeholder satisfaction; and it educates and trains the interested public to scale up the innovation.

The paper proposes a hybrid approach to design and implement an ISWMS that is carbon-efficient and cost-effective, combining community-led innovation and top-down policy/regulatory changes to avoid the potential tension. The paper also recommends using both academic and action research methods to design and implement such a system. The academic research methods include conducting institutional and stakeholder analysis. The action research methods assist the target communities to establish and utilize an inclusive and adaptive governance structure, in order to mobilize social, political and economic resources.

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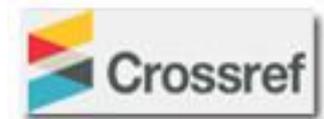
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