

Knowledge management processes and strategic human resources management: Creating competitive advantage through employee innovation behavior

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Keywords

Competitive advantage, Employee innovation behavior, Knowledge management, Strategic human resources.

Abstract

Purpose: this paper aims to investigate the impact of Knowledge Management Processes and Strategic Human Resources Management on creating Competitive Advantage. The research investigated the direct impact of Knowledge Management Processes and Strategic Human Resources Management. In addition to exploring the impact by using the moderating role of Employee Innovation Behavior.

Research design, data, and methodology: the paper used quantitative approach to collect the data; 400 questionnaires were distributed at three telecommunication companies in Egypt "Vodafone, Etisalat, and Orange. The data collected from the questionnaires were statistically analyzed using SPSS and AMOS 22 programs to conduct a Structured Equation Model, Confirmatory Factor Analysis, and a Path Analysis.

Results: The results showed that there is a direct positive effect of knowledge management processes on competitive advantage. However, there is a direct positive effect of Strategic human resources management on organization competitive advantage. Furthermore, there is a direct positive effect of knowledge management processes on organization competitive advantage when employee innovation behavior. Besides, there is a direct positive effect of strategic human resources management on organization competitive advantage when employee innovation behavior is a moderator variable.

Conclusion: It can be concluded that to enhance the organizational innovation capability if the HR practices are prompted by the HR managers effectively. Through HR practices the knowledge can be administrated and shared effectively that will aid in attaining organizational innovation, as well as competitive advantages.

Introduction

Global competition required further innovation in organizations. This is based on building employees' capabilities and providing them with knowledge management (KM) support, which speeds up knowledge processes and improves performance. Companies have begun to foster a work environment that priorities learning and knowledge sharing. According to Zaim et al. (2018), knowledge has been recognized as the primary source of wealth creation and managing that knowledge efficiently and effectively is a key success factor for acquiring a sustainable competitive advantage. Furthermore, competitive advantage is dependent on the creation, leverage, and successful application of knowledge, particularly knowledge inherent in human origins; effective KM is an important element that allows companies to move faster and better than competitors (Banerjee, 2013). To achieve a competitive advantage, human resource management (HRM) must be used to manage human assets by developing competencies that generate organizational knowledge (Gope et al., 2018).

According to Yaghoubi (2017), knowledge is treated as one of the basic organizational skills. Laurini (2020), define knowledge management as an explicit, systematic, strategic, and new knowledge program to optimize a company's effectiveness and revenue. Besides, Akyol (2019) divided knowledge management process into several elements, its basic component is acquiring knowledge, second element is knowledge creation, the third element is knowledge sharing and its implementation within the organization, while (Yaghoubi, 2017) stated that knowledge management processes affect organizational learning and are treated as organizational ability. Therefore, paying attention to organizational learning helps promote a culture of innovation and creativity in the workplace and among employees (Meryem et al. 2017).

Organizations are increasingly looking at human resource as the important asset that can provide competitive advantage. Basically, strategic human resources management (SHRM) highlights the growing change in the HRM function from being prescriptive, reactive, and administrative to being descriptive, proactive, and executive. Allui & Sahni, (2016), noted that the concept of SHRM is related to the appropriate integration of HRM activities with the business strategy of the company. According to, Boon et al. (2018) stated that HRM practices were deemed as a system aimed at enhancing motivation and skills of employees. Additionally, the effective HRM practices can support innovation behavior among employees in organizations through generating and transferring knowledge (Luiza, 2016). To achieve competitive advantages, the HR practices can help in knowledge generation, innovation, and the commitment of an organization's employees.

Furthermore, Innovation is crucial for an organization to create and sustain competitive advantage. Among different innovation levels, employee innovation behavior has become an essential aspect of organizational innovation (Shih & Susanto, 2011). Li & Hsu (2016), also believes that employee innovation behavior (EIB) is the foundation of organizational innovation and is defined as employees' activities that seek, generate, and apply new ideas and solutions. On the other hand, employee innovation (EI) contains in-role components that are part of the prescribed work tasks and extra-role ones that go beyond formal role descriptions (Potocnik & Anderson, 2016). Given the fact that the role of human resources has become more fundamental in facilitating firms to seek ways of predicting EIB (Seeck & Diehl, 2017). Based on the belief that employees who contribute to enhance firms' capacity to innovate through their imagination, creativity, and intelligence, Veenendaal & Bondarouk, (2015) have suggested the role of HR practices in identifying, developing, assessing, and compensating EIB.

Additionally, creating and maintaining competitive advantage is the strategic goal of each company. Competitive advantage is a set of qualities that give businesses leverage over their competition, it allows businesses to offer their target market a product or service with higher value than industry competitors. Hence, the competitiveness among organizations has increased recently, directing companies in terms of the search for strategies to remain active on the market. Under this bias, strategic business management explores all available resources effectively, given that organizations are becoming more flexible and adaptable to change for greater business longevity (Crnkovic, Monteiro, & Dias, 2016). Additionally, Hamel & Breen, (2010) investigate that competitive advantage becomes an evolutionary advantage, as organizations keep up with the advanced technology and rely on innovative for offering unique products and services.

2. Literature Review

2.1 Knowledge Management

According to Dei (2019) defined Knowledge as a complex set of dynamic skills, know-how that is constantly changing and need to be managed as an organizational asset, process, and object. This requires lots of human efforts, and the deployment of to facilitate the processing, extraction, sharing, and storage of knowledge technology (Al Mansoori, Salloum, & Shaalan, 2021). Moreover, management of knowledge entails the identification, sharing, and creation of knowledge (Ganguly, Talukdar, & Chatterjee, 2019). This requires systems for the creation and maintenance of knowledge and to facilitate the sharing of knowledge (Farooq, 2018).

Moreover, Obeid & Rabay (2016) defined knowledge as the processes that help an organization acquire, organize, generate, and disseminate knowledge, as well as transfer important information and

expertise to various management activities such as decision making, problem solving, learning, and strategic planning. Furthermore, knowledge management is defined as the processes and activities that help an organization generate, acquire, discover, and organize knowledge, as well as use and disseminate it among employees, as well as transfer information and experiences that the organization has and apply them in management activities such as decision making, job procedures, and strategic planning (Hussinki et al., 2017).

2.2 Strategic Human Resources Management

Strategic human resource management (SHRM) first appeared in the mid-1980s and is now recognized as an important research and practice area in business administration (Kaufman, 2015). Given the significance of strategic performance in human resource management (HRM), its academic importance is gaining international traction (Jackson, Schuler, & Jiang, 2014). SHRM, according to Cania (2014), is "a process that involves the use of overarching approaches to the development of HR strategies that are integrated vertically with the business strategy and horizontally with one another." These strategies define intentions and plans relating to overall organizational considerations as well as more specific aspects of people management such as resourcing, learning and development, reward, and employee relations. As a result, SHRM practices are more focused on the strategic aspect of human resources in an organizational setting. SHRM is an effective use of HRs to assist firms in dealing with competition and environmental forces that can ensure the company's long-term objectives are met (Anthony et al., 2002).

Furthermore, strategic HRM alignment entails HRM being recognized as a strategic partner in the formulation and implementation of the company's strategies through HR practices such as recruitment, selection, training, and reward (Allui & Sahni, 2016). According to (Alnaqbi, 2011) HRM practices divided into two categories: those that improve skills and those that increase motivation. According to the study's findings, skill-enhancing activities like selection, training, and development are linked to turnover and financial performance, whereas motivation-boosting activities like performance appraisal and compensation are linked to productivity.

Previous SHRM research has increasingly relied on the firm's resource-based view (RBV) to explain the role of SHRM in firm performance (Nyberg et al., 2014; Shaw et al., 2013; Carbery et al., 2013; Bidmeshgipour, 2012; Ismail et al., 2010). Saddam & Abu Mansor (2015) believed that because SHRM practices are often unique and causally ambiguous, they could lead to increased organizational performance and be sources of a sustained competitive advantage.

2.3 Employee Innovation Behavior

Innovation is defined as making changes in an established idea and its consequences, especially by introducing new methods or products (Fatemi, 2021). The concept of innovative behavior has been investigated by many scholars in the last few years in different fields of management, psychology, sociology, and economics (Bammens, 2016; Hapsari et al., 2019; Schaijk, 2018; Waheed, 2017). According to (Agarwal, 2014), employees have been identified as important sources of innovation; consequently, their innovative behaviors are critical to organizational innovation. Furthermore, employee innovative behavior is defined as the ability to generate new ideas and apply these ideas to job-related tasks that benefit the organization's performance (Lei, Haider & Hussain, 2018).

Scholars suggest some antecedents to employee innovative behavior, including organizational culture (Kang et al., 2016), job characteristics (Shin et al., 2017), knowledge management (Lai et al., 2016), leadership style (Pieterse et al., 2010; Shunlong & Weiming, 2012), employee engagement (Hapsari et al., 2019; Waheed et al., 2017) and affective commitment (Hakimian et al., 2016). Besides, Scott and Bruce (1994), employee innovative behavior is a three-step process that begins with identifying a problem and ending with a solution that is either existing, adopted, or completely new. In the second step, the employee seeks internal or external support and sponsorship for their innovative idea. The third stage is implementation, in which employees prototype ideas that can be put into production.

2.4 Competitive Advantage

The concept of competitive advantage has received a lot of attention in recent years, both locally and globally, because it is the essence of an organization's performance. As a result, it has been directed to

improve the quality of its services, satisfy the desires of its customers, and progress to gain a competitive advantage (Alheet, Adwan, Areiqat, Zamil & Saleh, 2020). Wang, (2014) defined Competitive advantage as the strategic advantage one business entity has over its rival entities within its competitive industry. Competitive advantage occurs when an organization acquires or develops an attribute or combination of attributes that allows it to outperform its competitors. These attributes can include access to natural resources, or access to highly trained and skilled personnel human resources.

Nevertheless, A competitive advantage comes from the good performance that the company may develop depending on the use of resources and the potential for developing new skills (Porter, 1985), with which they manage to guarantee its permanence in the middle even though competition also carry out activities to maintain their status in the market (Horta et al., 2015). The success of a company in the process of developing competitive advantage lies not only in generating value through valuable resources that are difficult to imitate and replace but is linked to additional work carried out by the company to make the competitive advantages become sustainable over time (Alegre, 2013). A competitive advantage is sustainable if the company manages to keep developments provided, they comply with the condition inimitable and irreplaceable, Authors supported the fact that innovation as a source for sustaining competitive advantage for companies working in function to integrate something new that no longer used by the competition (Gálvez & García, 2012).

Research Hypothesis, Data Collection and Sample Selection

3.1 Research Hypotheses

Hypothesis 1: Knowledge management processes have a positive significant impact on organization competitive advantage.

Hypothesis 2: Strategic human resources management has a positive significant impact on organization competitive advantage.

Hypothesis 3: The impact of Knowledge management processes on organization competitive advantage will be stronger when innovation behavior is a moderator variable.

Hypothesis 4: The impact of strategic human resources management on organization competitive advantage will be stronger when innovation behavior is a moderator variable.

Study Sample Size

The research sample includes all employees who are working in the telecommunication sector in Egypt, which includes the three organizations: Vodafone, Orange, and Etisalat.

$$n = z^2 \sigma^2 / (\text{sampling error})^2$$

Where n = sample size

$z = 2$ for a 95% confidence level

$\sigma^2 =$ population variance = 0.25 assuming the worst case when the population variance is at its maximum which occurs when the population proportion of variability is equal to 0.5.

If the population proportion is to be estimated within an error of 0.05 at a 95% confidence level, the needed sample size will be:

$$n = 22 (0.25) / (0.05)^2 = 400 \text{ participants.}$$

3.3 Measurement and Scaling of the questionnaire

The concepts measured in this paper are Knowledge Management Processes, Strategic Human Resources Management, and Employees' Innovation Behavior and Competitive Advantage. All the constructs were measured using 5 points Likert Scale ranging from "Strongly Disagree" to "Strongly Agree". (Appendix available from authors).

Knowledge Management processes represent independent first variable: a scale measured by 24 items developed by (Iman, 2018), independent variable will be treated as Sub-dimensions and the questions ranged:

Knowledge Creation (From Q1 to Q6).

Knowledge Dissemination (From Q7 to -Q11).

Knowledge Exchange (From Q12 to Q18).

Knowledge Application (From Q19 to Q24).

Strategic Human Resources Management represent second independent variable: a scale measured by 35 items developed by (KIIRU, 2015), dependent variable will be treated as one dimension and questions ranged:

Training (From Q25 to Q35).

Recruitment (From Q36 to Q42).

Performance Management (From Q43 to Q49).

Compensation (From Q50 to Q60).

Employees' Innovation Behavior represent moderating variable: a scale measured by 35 items developed by (KIIRU, 2015), dependent variable will be treated as one dimension and questions ranged:

Training (From Q25 to Q35).

Recruitment (From Q36 to Q42).

Performance Management (From Q43 to Q49).

Compensation (From Q50 to Q60).

Competitive Advantage represent dependent variable: a scale measured by 14 items developed by (Riham, 2008), dependent variable will be treated as one dimension and the ranged questions (From 70 to 84).

Methodology

4.1 Analysis of Constructs Validity and Reliability

The internal consistency coefficient (Cronbach's Alpha) reflects the reliability of a scale. It captures the proportion of total variance that is common to all items that form the scale, which presumably corresponds to the underlying construct being measured, and average inter-item correlation to measure intrinsic validity Cronbach's Alpha reflects that good reliability of questions as ranged from (0.907 to 0.985) with total reliability of questionnaire was 0.994. In addition, inter-item correlation for all items ranged from (0.607 to 0.695) greater than 0.5 which support the intrinsic validity of the questionnaire.

Table 1: Reliability of questionnaire in each category by using Cronbach's Alpha coefficient

Item	Number of Questions	Reliability measure	Intrinsic validity
Knowledge Creation	6	0.919	0.654
Knowledge Dissemination	5	0.907	0.662
Knowledge Exchange	7	0.937	0.681
Knowledge Application	6	0.927	0.681
Knowledge Management Process	24	0.980	0.673
Training	11	0.952	0.642
Recruitment	7	0.936	0.676
Performance Management	7	0.939	0.687
Compensation	11	0.944	0.607
Human Resources	36	0.985	0.643
Employee Innovation Behavior	9	0.948	0.668
Competitive Advantage	15	0.972	0.695
Total	84	0.994	0.661

Findings

5.1 The Research Model

$$innovation = \beta_0 + \beta_1 * Knowledge + \beta_2 * human resources + \epsilon$$

$$competitive = \beta_0 + \beta_1 * Knowledge + \beta_2 * human resources + \beta_3 innovation + \epsilon$$

Table 2: the relation between knowledge management Process Dimension and its sub-dimensions

		Knowledge Creation	Knowledge Dissemination	Knowledge Exchange	Knowledge Application
Knowledge management processes	Pearson Correlation	.971**	.964**	.979**	.968**
	Sig.	.000	.000	.000	.000
	N	332	332	332	332

From the above table (2), we found that all sub-dimensions have significantly strong positive correlations with Knowledge management process since the p- value is 0.000 which is less than the significance level alpha equals 0.05 and the values of the Pearson correlation coefficient is positive and between 0.7 and 1 which indicates positive strong correlation.

And using the value of the correlation coefficient it is clear that the lowest correlation is Knowledge dissemination (0.964) followed by Knowledge application (0.968) then Knowledge Creation (0.971) and the highest correlation is Knowledge Exchange (0.979) which means that knowledge management process in the private sector is highly determined by it.

Table 3: The relation between the Human Resources Management Dimension and its Sub- Dimensions

		Training	Recruitment	Performance Management	Compensation
Human Resources	Pearson Correlation	.974**	.973**	.973**	.977**
	Sig.	.000	.000	.000	.000
	N	332	332	332	332

From the above table (3), it was found that all sub-dimensions have significantly strong positive correlations with Human Resources Management since the p- value is 0.000 which is less than the significance level alpha equals 0.05 and the values of the Pearson correlation coefficient is positive and between 0.7 and 1 which indicates positive strong correlation.

And using the value of the correlation coefficient it is clear that the lowest correlation is Recruitment and Performance Management (0.973) followed by Training (0.974) and the highest correlation is Compensation (0.977) which means that Human Resources Management in the private sector is highly determined by it.

Table 4: The goodness of fit Indices for the estimated SEM

	<u>Model</u>
Chi-square	1079.344
Degree of freedom	1
Level of significance	0.000
RMESA	0.0458
NFI	0.930
RFI	0.921
IFI	0.930
TLI	0.924
CFI	0.929

From the above table (4), the researcher concluded that all the goodness of fit measures of the model of private Sector indicates that all indicators at acceptable limits, especially NFI, RFI, IFI, TLI, and CFI is close to one. In addition, the value of RMSEA is less than 0.05. All these measures indicate the goodness of fit of the structural model. In addition, level of significance of the Chi-square test indicates that the overall model is significant. The fit measures indicate the goodness of fit of the structural model.

Figure 1: Path Analysis

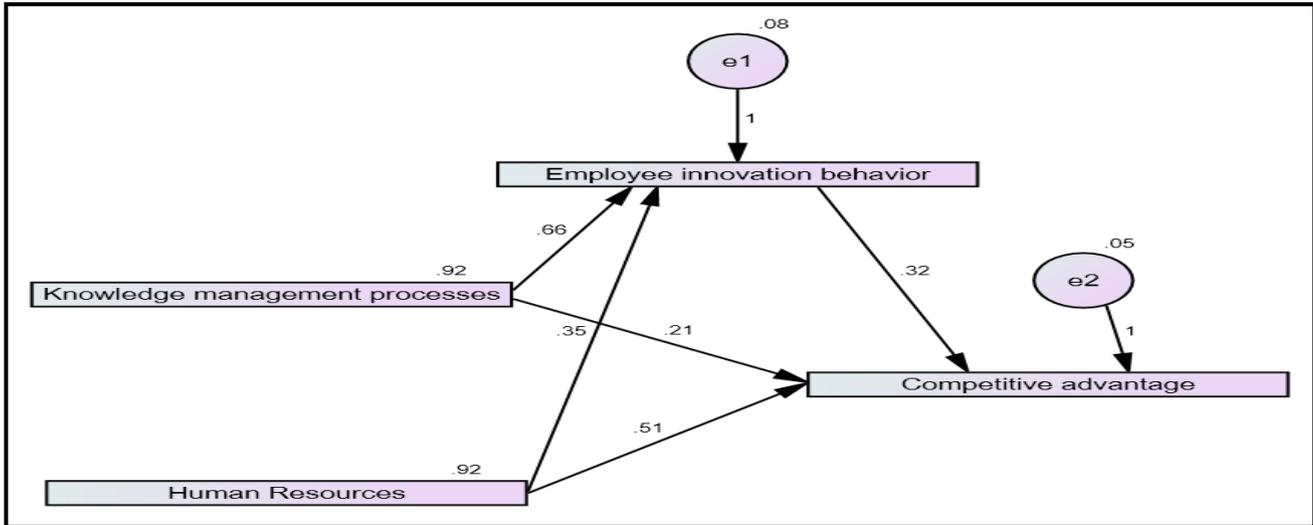


Table 5: Description statistics for Path Analysis

			Estimate	S.E.	C.R.	P
Employee innovation behavior	<---	HR	.347	.016	21.322	***
Employee innovation behavior	<---	Knowledge management processes	.662	.016	40.624	***
Competitive advantage	<---	Employee innovation behavior	.317	.044	7.265	***
Competitive advantage	<---	HR	.506	.020	25.404	***
Competitive advantage	<---	Knowledge management processes	.215	.032	6.776	***

From the above Table (5) and Figure (1), it is deduced that, all paths are significant; we can conclude with confident 95% (as p-value for all coefficients less than 0.05) the following:

There is direct positive effect of Knowledge management process on competitive advantage, with regression coefficient = 0.215, and this support hypothesis 1.

There is direct positive effect of Human Resources Management on Competitive advantage, with regression coefficient = 0.506, and this support hypothesis 2.

The Employee Innovation Behavior mediates the relation between the Knowledge management process and Competitive advantage, this is because there is significant effect of Knowledge management process on Employee innovation behavior also there is a significant effect of Employee innovation behavior on Competitive advantage. The direct effect of knowledge management process = 0.215, while the indirect effect = $0.662 \times 0.317 = 0.209854$, then the total effect = $0.215 + 0.209854 = 0.424854$, which is greater than the direct effect alone and this support hypothesis 3.

The Employee Innovation Behavior mediates the relation between the Human resources management and Competitive advantage, this is because there is significant effect of Human Resources management on Employee innovation behavior also there is a significant effect of Employee innovation behavior on Competitive advantage. The direct effect of Human Resources management = 0.506, while the indirect effect = $0.347 \times 0.317 = 0.109999$ then the total effect = $0.506 + 0.109999 = 0.615999$ which is greater than the direct effect alone and this support hypothesis 4.

Discussion

The results of the paper showed that knowledge management processes have a significant direct positive effect on creating competitive advantage for the organization. This result agrees with the previously discussed research conducted by (Rahimli 2012), previous research on knowledge management shows the impact of knowledge management in the development of organizations, especially its advantage in driving competitiveness. Besides, Understanding the impact of knowledge management processes on creating competitive advantage by using the moderating role of employee innovation behavior. The results of the paper showed that knowledge management has a significant direct positive effect on creating competitive advantage for the organization by using employee innovation behavior as a moderating variable.

Additionally, analyzing the impact of strategic human resources on creating competitive advantage. The results of the paper showed that strategic human resources have a significant direct positive effect on creating competitive advantage for the organization this result agrees with research conducted by (Hamadamin & Atan, 2019). Confirming previous research findings that SHRM supports the processes of knowledge creation, sharing, and use by motivating employees to innovate and share knowledge in ways that contribute to competitive advantage and high performance (Phaik,2010). This was also asserted by (Fndkl ,2015), who stated that there is an important overlapping relationship between SHRM and KM, leading to the creation of competitive advantage; it was also demonstrated throughout the study that there is a significant and positive relationship between SHRM on creating competitive advantage for the organization by using employee innovative behavior as a moderating role of employee innovative behavior.

Finally, by assessing the impact of KMP and SHRM on creating and maintaining competitive advantage, the findings of this study demonstrated evidence that KM and SHRM practices may help organizations improve activities of knowledge sharing among employees, which may be the root of forming new ideas and successfully implementing innovation. Furthermore, the mediating roles of employee innovation behavior in the relationship between KMP and SHRM will have a direct impact on innovation performance by improving employees' behavior towards competitive advantage.

Conclusion

The purpose of this study was to investigate the impact of knowledge management processes and strategic human resources on creating competitive advantage by using the moderating role of employee innovation behavior upon this relationship. The results of this study, which demonstrated the importance of the relationship of these variables, provide an understanding of how strategic human resources implementations and knowledge management combined with employee innovation behavior can significantly contribute to achieving competitive advantage. Achieving competitive advantage needs the support of strategic human resources implementations over the development of employee experience with the basic values of the organization.

Finally, this study provides managers working at the telecommunication companies with fruitful information and data about their employee's behavior, sharing knowledge, human resources practice and how all these factors work together to affect the organization performance and on creating competitive advantage. All the results of this study can be used as a base of information that creates building blocks for managers to enhance and develop employees' innovation, creation, knowledge, and management systems.

Future research

According to previous research, jobs with a certain level of complexity may present some challenges to employees, prompting them to innovate. Meanwhile, jobs with lower complexity are more efficient for employees. Thus, challenging jobs encourage employee innovation at the expense of efficiency. As a result, future research needs to investigate whether employee innovation behavior mediates the relationship between job complexity and performance.

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