Journal of Strategic Management

The Moderating Effect of Knowledge Management Strategies on the Relationship between Intellectual Capital and Performance of Large Manufacturing Firms in Kenya

Agnes Mashaka Oliko, Peter K'Obonyo, Mercy Munjuri & Harriet Kidombo

ISSN: 2616-8472

Stratford Peer Reviewed Journals and Book Publishing
Journal of Strategic Management
Volume 8||Issue 2||Page 72-83||June||2024|
Email: info@stratfordjournals.org ISSN: 2616-8472

The Moderating Effect of Knowledge Management Strategies on the Relationship between Intellectual Capital and Performance of Large Manufacturing Firms in Kenya

[1*]Agnes Mashaka Oliko, [2]Prof. Peter K'Obonyo, PhD, [3]Prof. Mercy Munjuri, PhD & [4]Prof. Harriet Kidombo, PhD

[1] PhD Student, Department of Business Administration, School of Business, University of Nairobi
[2,3,4] Senior Lecturers, Department of Business Administration, School of Business, University of Nairobi
***Email of the corresponding author: mashakaagnes@yahoo.com**

***How to cite this article*: Oliko A. O., K'Obonyo P., Munjuri M., & Kidombo H. (2024). The Moderating Effect of Knowledge Management Strategies on the Relationship between Intellectual Capital and Performance of Large Manufacturing Firms in Kenya. *Journal of Strategic Management*, 8(2), 72 - 83. https://doi.org/10.53819/81018102t2418**

Abstract

Knowledge management is concerned with the processes and ways for managing intellectual assets to realize competitive advantages. Although the knowledge management processes naturally exist within the firm, they vary across firms depending of specific contexts faced by organizations. This study sought to establish the moderating effect of knowledge management strategies on the relationship between intellectual capital and performance. This study was guided by positivism philosophy and used a deductive approach. The study adopted a descriptive survey. The population of interest comprised all the 124 large manufacturing firms in Kenya that are members of the Kenya Association of Manufacturer (KAM) as at December 2019. Data was gathered using a questionnaire. The questionnaire targeted CEO, director of human resources and finance. To test this hypothesis, the moderating variable, knowledge management strategies, was indicated by 4 sub-variables, including acquisition and creation, capturing strategies, transferability/sharing and integration and networking. The study findings indicated that knowledge management strategies have a significant moderating influence on the association between intellectual capital and performance significant. The extent to which firms' intellectual capital results in desirable performance is dependent on the knowledge management strategies employed thereof. The study recommends that large manufacturing firms in the country seeking to improve their performance improve their knowledge management strategies in order to enhance the extent to which intellectual capital thereof, yields desirable organizational performance. This can be achieved by tapping into the wealth of knowledge in the external environment to inform their production and human resource management processes and practices for innovation and performance improvements.

Keywords: *Intellectual Capital, Knowledge Management Strategies, Performance & Large Manufacturing Firms*

Stratford Peer Reviewed Journals and Book Publishing
Journal of Strategic Management
Volume 8||Issue 2||Page 72-83||June||2024|
Email: info@stratfordjournals.org ISSN: 2616-8472

1.1 Introduction

Knowledge management is concerned with the processes and ways for managing intellectual assets to realize competitive advantages (Alavi & Leidner, 2019). Wiig (2004) defines knowledge management strategies (KMS) as the set of strategic choices addressing knowledge creation, acquisition, dispersion, capitalization, adaptation, transmission and custody. The management of knowledge strategies is gaining credence as the major foundation of the firm's long-term success (Grant, 1996; Nonaka, 1993; Prahald & Hamal, 1990; Booker & Serenko, 2008). Hussinki et al. (2017) argue that knowledge management is exemplified by four organizational vital success factors including human oriented factors, organizational leaning factors, technology-based factors, and management process-oriented factors. Knowledge management involves two categories consisting of processes and practices. Knowledge management processes is concerned with the broad generic activities carried out within an organization encompassing gathering, construction, sharing and the use of knowledge (Kianto, 2008). Although the knowledge management processes naturally exist within the firm, they vary across firms depending of specific contexts faced by organizations. Knowledge management practices focus on methods used to generate competitive advantage grounded on knowledge.

Explicit knowledge and tacit knowledge are the two broad categories of knowledge. Explicit knowledge is visible, documentable, communicable and independently storable (Junnarkar & Brown, 1997). Wang et al. (2006) observed that tacit knowledge is indirect, difficult to document, incommunicable, based on cognitive thoughts and perceptions hence, difficult to share. Gao et al. (2009) argue that strategy based on explicit knowledge is required for integrating scattered knowledge, enhance ingenuity and novelty that subsequently generate superior organizational performance. Integration of knowledge is accomplished through human resource practices including training and development, employee support, and circulation of official development (Wang & Wang, 2012). Dynamic capabilities theory postulates that firms can gain competitiveness from the way they integrate, build and reconfigure the resources that they own using their employee knowledge, attitude and skills (Teece, 1997; Serenko, 2009).

Measuring the efficiency of KMS provides an important characteristic of organizational performance. Firms enjoy competitive advantage on condition that they have internal capacity to create, disseminate and exploit organizational knowledge (Abeysekera, et al., 2004). Furthermore, competitive advantage is derived from knowledge management when the firm protects their knowledge resources from imitation and theft by competitors (Bueno, 2002). According to Lin (2008), competitive advantage of a firm requires organizations to build capacity for effective sharing, transfer, and gathering of knowledge from stakeholders, and in addition attract knowledge from distant places (Pablos, 2002). Although research in the knowledge field is still accumulating, literature suggests efforts being made to identify strategies which help organizations to manage their knowledge efficiently. Formulation of KMS structure will enhance organizational responsiveness at a time when organizations are experiencing technological disruptions, hyper competition, changing customer needs and quest for increase in shareholder value.

Large Manufacturing Firms (LMFs) represent the face of the main economic sector of the Kenyan economy. The choice of the study context has been motivated by the fact that large manufacturing firms play a significant role in Kenya's economy, but their performance varies widely across industries. Therefore, the study attempts to assess how organizational resources that are difficult to capture in the balance sheet contribute to the variations in organizational performance. Performance and long-term survival of these manufacturing firms is affected by multifaceted

elements including, but not limited to their internal structural configuration of their intangible and tangible resources, and how they are aligned to the business environment in ways that create a symphony in operations and resultant products and services (Kenya Economic survey, 2017).

1.2 Research Problem

KMS is the strategic application of integrated management strategy, which combines the explicit (IT) and tacit (people) knowledge with organizational process to create, store, share and apply knowledge assets from the different sources (internal and external) of knowledge to make the right decisions in order to gain strategic objectives. Bhalt (2001) defines Knowledge Management Strategies as the processes and procedures that govern the creation, dissemination and utilization of knowledge by merging organizational structures and people with technology in order to better leverage the resources within an organization. In progressive organizations Knowledge Management Strategy moderates the relationship between IC and FP. While IC focuses on renewing and maximizing the enterprise-wide value of intellectual assets, Knowledge Management Strategy supports intellectual capital management by focusing on detailed systematic, explicit processes and overlap and synergy between IC and KMS. Advanced enterprises pursue deliberate strategies to coordinate and exploit them.

An examination on the impact of Knowledge Management Strategies on Strategic Performance in Chinese High-Tech Firms Drawing on the resource-based view indicates a correlation exists. Results from moderated regression analysis show the Knowledge Management Strategies and performance connection is contingent on both performance driven strategies (including reward system and process innovation) and knowledge management based competencies, such as research and development from past projects, market intelligence, and intraorganizational knowledge sharing. The findings suggest that both performance driven strategies are knowledge management-based competencies should be considered in the implementation of knowledge management strategies in the Chinese high-tech firms. Drawing from this literature, it creates a debate on ways large manufacturing Firms in Kenya can adopt knowledge management strategies as a moderating variable in the operations to enhance their performance. Hence, the study sought to answer the question: does knowledge management strategies moderate the relationship between intellectual capital and performance?

1.3 Research Objective

To establish the moderating effect of knowledge management strategies on the relationship between intellectual capital and performance

2.0 Literature Review

2.1 Theoretical review: Knowledge Based View

The knowledge-based view (KBV) is an annex of the resource-based theory (Wernerfelt, 1984). It takes a multidisciplinary approach to explain how intangible resources contribute to performance of the firm. The knowledge-based theory treats knowledge as the central strategic resource at the disposal of management for improving firm performance (Curado & Bontis, 2006). According to the theory, intellectual capital and knowledge management are important antecedents to competitive advantage (Hsu & Sabherwal, 2012). The theory advances the argument that organizations prosper by creating, transferring and transforming knowledge into competitive advantage (Kogut & Zander, 1992). In light of KBV, knowledge is both a resource and competence that creates success only when it is utilized and developed (Hussinki et al., 2017).

The theory points out the importance of tacit and explicit knowledge for the creation of sustainable competitive advantage (Reus et al., 2009). Researchers in support of the theory suggest that knowledge-oriented resources are immune to imitation and socially complex to substitute. In addition, heterogeneous knowledge-bases and capabilities of the firm are the main antecedents to superior organizational performance. The theory holds that transfer of knowledge across firms is not automatic due to stickiness. Stickiness is defined as the internal organizational factors that facilitate the achievement of competitive advantage (Curado & Bontis, 2006). According to KBV, knowledge management strategies is the approach used to capture organizational knowledge repository and use it to promote creativity through chains of organizational learning (Becker, 1998; Nonaka & Takeuchi, 1995; Pablos et al, 2000, 2001).

Although the theory explains how intellectual capital and knowledge management translates to performance, it does not explain why some organizations fail despite being a repository of knowledge. The theory assumes the presence and utilization of knowledge is both necessary and sufficient condition for the creation of long-term competitive advantage. The Study aims to test the predictions of knowledge-based view within the context of Kenyan large manufacturing firms. In addition, the study introduces employee competence as a proxy of competitive advantage to assess the indirect influence of cognitive capital on organizational performance.

2.2 Empirical Review

Knowledge management strategies is described as the mechanism for capturing, managing, acquiring, creating and distributing knowledge reside within the firm (Serenko, 2007). Knowledge is a resource that increases organization's innovative capacity and preparedness for effective competition. It resides within employees and in composite sense within the organization. Knowledge management and cognitive capital are interdependent. Whereas intellectual capital emphasizes on the various forms of knowledge, knowledge management on the other hand entails processes and practices involved in the utilization of knowledge resources (Hsu & Sabherwal, 2012). Hence, knowledge management and cognitive capital are interrelated in the sense that intellectual capital is the repository of knowledge while knowledge management represents the behavioural processes involved in handling and utilizing knowledge. According to dynamic capabilities and the general system theory, strategic resources are important contributors of an organizations ability to maintain a sustainable competitive advantage. Researchers (Rehman, Ilyas & Asghar, 2015) report that tacit knowledge contributes to organizational performance by improving the quality of products and services, improving efficiency and generating first mover advantages (Matthew & Sternberg, 2009).

Studies have presented evidence showing that management of knowledge influences the link between cognitive capital and performance. Fan-Chuan and Yen-Jung (2011) argue that organizational members' perception of their knowledge management activities can influence performance. Ling (2013) established that knowledge management strategies moderated the connection between cognitive capital and organizational performance. In addition, Ghosh (2009) established that knowledge management strategies moderates the association between cognitive capital and performance. Similar results were reported by Black and Decker (2002) in Europe.

2.3 Conceptual framework

The relationship of the variables under study is shown in Figure 1. The conceptual framework is based on a theoretical framework wherein IC plays the role of predictor variable, and

Stratford Peer Reviewed Journals and Book Publishing
Journal of Strategic Management
Volume 8||Issue 2||Page 72-83||June||2024|
Email: info@stratfordjournals.org ISSN: 2616-8472

organizational performance is the predicted variable. KMS is considered a moderator on the link between IC and organizational performance.

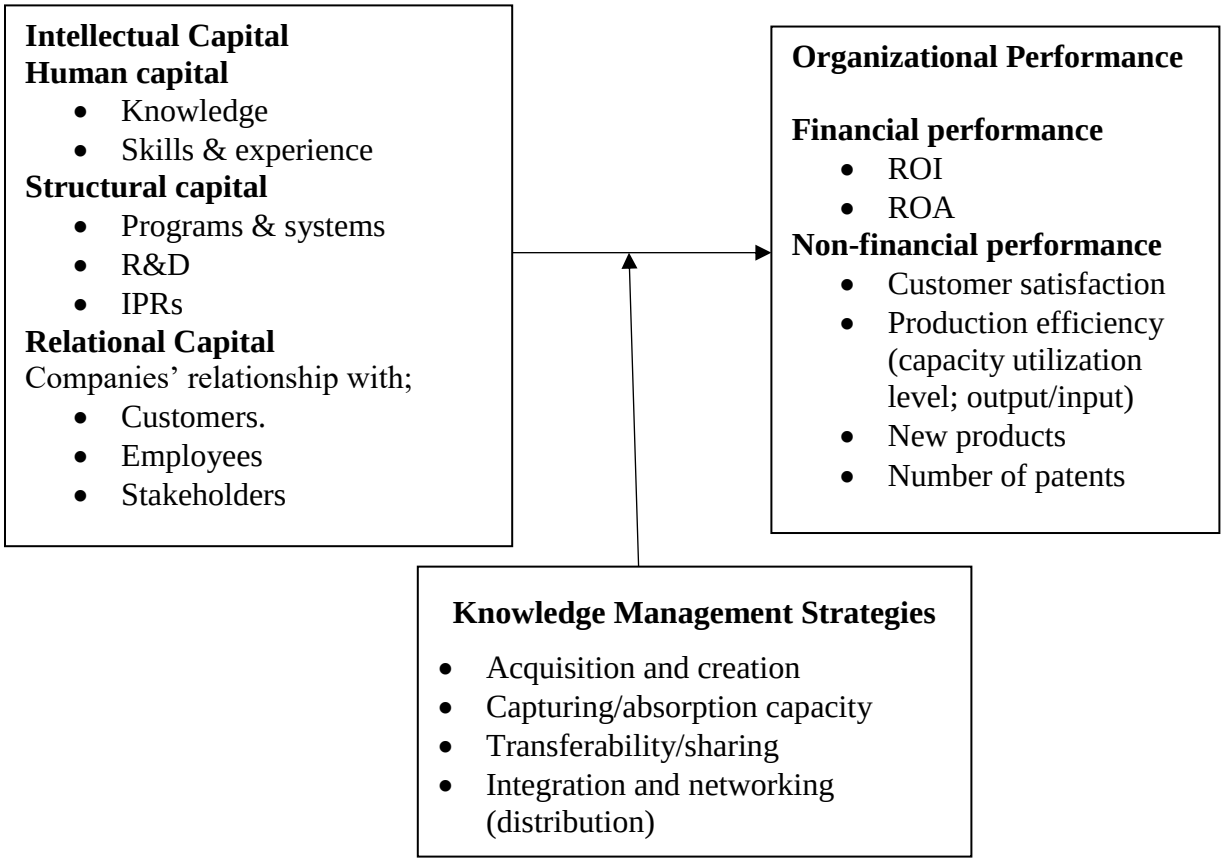

Figure 1: Conceptual Framework

2.4 Research Hypothesis

H_0: Knowledge Management Strategies have no moderating effect on the relationship between Intellectual Capital and performance

3.0 Research Methodology

This study was guided by positivism philosophy and used a deductive approach. Deductive approach aims at testing concepts and patterns drawn for theory using empirical data. The study was guided by theories and aims at testing hypothesized relationships. Positivism is the preferred philosophy for studies that involve hypotheses testing. The study adopted a descriptive survey where data is collected using cross-section design. Descriptive studies are useful where research involves description of a subject matter associated with a population (Cooper & Schindler, 2006). Descriptive studies determine nature of relationships between variables. The descriptive design describes relationships among the variables of the study.

The population of interest comprised all the 124 large manufacturing firms in Kenya that are members of the Kenya Association of Manufacturer (KAM) as at December 2019. The various

sectors in the population of the study are classified under four market sectors as follows: Food sector, automobile assembly, cement and household goods. The LMFs were selected as ideal for the study owing to their being a fair reflection of the Kenyan economy in the context of the critical role that they play in the economy.

The research used data from primary sources on all LMFs in Kenya, Data on performance included internal business process, customer focus, learning and growth, societal and environmental factors. Original data was gathered using a questionnaire. The questionnaire targeted CEO, director of human resources and finance. The choice of informants was guided by the nature of their jobs that makes them custodians of information about IC, KMS, EC and firm performance. The questionnaire was administered through both the 'drop and pick' and mail questionnaire method. The hierarchical regression analysis used was:

Step 1:
Performance = B_0+B_1Intellectual Capital + e
Step 2:
Performance = B_0+B_1Intellectual Capital + B_2Knowledge management strategies + e
Step 3:
Performance = B_0+B_1Intellectual Capital + B_2Knowledge management strategies + B_3U + e
Where
B_0 = Regression constant
B_1 – B_3 = Regression coefficients, U = Interaction term of Intellectual capital & KMS, e= error term

4.1 Results and Findings

The total number of administered questionnaires was 124 large manufacturing firms in Kenya, targeting the senior management staff including CEOs, directors of human resources and finance directors. Five (5) of these manufacturing firms were excluded for the pilot study, leaving a targeting population of 119. From the 119 administered questionnaires, a total of 111 were dully filled and returned, bringing the total response rate to 93.3%.

4.2 Hypothesis Testing

The study stated the hypothesis as: Knowledge Management Strategies have no moderating effect on the relationship between intellectual capital and performance (H_0). To determine moderation, the significance of the interaction term between the factor variable (intellectual capital) and the moderator (knowledge management strategies) and how it affects the outcome variable in the model was tested. To this end, a hierarchical regression analysis was conducted.

4.2.1 Intellectual Capital, Knowledge Management Strategies and Performance

In Table 1, the model summary is presented.

Stratford Peer Reviewed Journals and Book Publishing
Journal of Strategic Management
Volume 8||Issue 2||Page 72-83||June||2024|
Email: info@stratfordjournals.org ISSN: 2616-8472

Table 1: Model Summary for Intellectual Capital, Knowledge Management Strategies and Performance

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.738[a]	.545	.540	8.29201	.545	130.389	1	109	.000	
2	.820[b]	.672	.666	7.06678	.128	42.073	1	108	.000	
3	.832[c]	.692	.683	6.88488	.020	6.782	1	107	.011	2.610

d. Dependent Variable: Performance
b. Factors: (Constant), Intellectual capital
c. Factors: (Constant), Intellectual capital, Knowledge management strategies
d. Factors: (Constant), Intellectual capital, Knowledge management strategies, Interaction

Source: Survey Data (2021)

Table 1 shows that intellectual capital explained 54.5% (R^2 = .545) of the variation in performance (Model 1). Model 2 suggests that intellectual capital and knowledge management strategies jointly explained 67.2% (R^2 = .672) of the variation in performance. In Model 2, results show that knowledge management strategies had a significant contribution in explaining variation in performance (change in R^2 = .128, F change = 42.073). A change in F statistic (6.782) was also observed in model 3 when the interaction term was introduced.

A comparison of results in model 3 and 2 further confirms a moderating influence of knowledge management strategies on the association between intellectual capital and performance based on the R^2 change (.020) and the F change 6.782 (<.05). The ANOVA test results are as obtainable in Table 2.

Table 2: ANOVA for Intellectual Capital, Knowledge Management Strategies and Performance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8965.191	1	8965.191	130.389	.000[b]
	Residual	7494.557	109	68.757		
	Total	16459.748	110			
2	Regression	11066.291	2	5533.145	110.797	.000[c]
	Residual	5393.457	108	49.939		
	Total	16459.748	110			
3	Regression	11387.787	3	3795.929	80.080	.000[d]
	Residual	5071.961	107	47.402		
	Total	16459.748	110			

a. Dependent Variable: Performance
b. Factors: (Constant), Intellectual capital
c. Factors: (Constant), Intellectual capital, Knowledge management strategies
d. Factors: (Constant), Intellectual capital, Knowledge management strategies, Interaction

Source: Survey Data (2021)

Stratford Peer Reviewed Journals and Book Publishing
Journal of Strategic Management
Volume 8||Issue 2||Page 72-83||June||2024|
Email: info@stratfordjournals.org ISSN: 2616-8472

Results in Table 2 show that Model 1 assessing the association between intellectual capital and performance was significant (F = 130.389, p-value < 0.05). Model 2 assessing the joint effect of intellectual capital and knowledge management strategies on performance was also significant, positive and robust (F = 110.797, p-value < 0.05). Model 3 that controls for the interaction term was also significant (F = 80.080, p-value < 0.05). Table 3 presents the regression coefficient results on which basis results for the hypothesis test are interpreted.

Table 3: Regression Coefficients for Intellectual Capital, Knowledge Management Strategies and Performance

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-11.344	8.256		-1.374	.172
	Intellectual capital	.541	.047	.738	11.419	.000
2	(Constant)	2.616	7.358		.356	.723
	Intellectual capital	.092	.080	.125	1.143	.256
	Knowledge management strategies	.756	.117	.710	6.486	.000
3	(Constant)	-1.286	7.323		-.176	.861
	Intellectual capital	.177	.085	.241	2.088	.039
	Knowledge management strategies	.643	.122	.603	5.290	.000
	Interaction	1.527	.586	.152	2.604	.011

a. Dependent Variable: Performance

Source: Survey Data (2021)

The findings obtainable in Table 3 demonstrate that intellectual capital significantly influence performance (β = .738, p-value < 0.05). Model 2 reveals that intellectual capital has a reduced influence on performance and not significant (β = .125, p-value > 0.05) with the introduction of knowledge management strategies, which is also significant (β = .710, p-value < 0.05). In Model 3, intellectual capital also has a reduced influence on performance albeit still significant (β = .241, p-value < 0.05), while knowledge management strategies have a stronger influence which was also significant (β = .603, p-value < 0.05). The model further reveals that the interaction term has a significant influence in the model (β =.152, t=2.604, p-value < 0.05), implying that knowledge management strategies have a significant influence on the association between intellectual capital and performance.

Table 4 presents a summary of results for null hypothesis.

Stratford Peer Reviewed Journals and Book Publishing
Journal of Strategic Management
Volume 8||Issue 2||Page 72-83||June||2024|
Email: info@stratfordjournals.org ISSN: 2616-8472

Table 4: Summary Results for Null Hypothesis

Objective	Hypotheses	Results	Hypothesis Rejected/Failed to Reject
To establish the moderating effect of knowledge management strategies on the relationship between intellectual capital and performance	**H_0:** Knowledge management strategies have no moderating effect on the relationship between intellectual capital and performance	R=.832, R^2=.692, p<0.05, F Change = 6.782, p<0.05, β= -.152, p<0.05	Rejected

Source: Survey Data (2021)

The summary results in Table 4 reveal that knowledge management strategies have a moderating effect on the relationship between intellectual capital and performance as indicated by a statistically significant interaction term at .152 (P<0.05). The regression analysis can thus be rewritten as follows:

P= -11.344+ .738IC: FP= 1.088+ 0.843IC

P = 2.616+ .125IC + .710KMS: FP= 0.988 + 0.534IC + 0.343KMS

P = -1.286 + .241IC + .603KMS + .152 IC*KMS: FP= 0.920+ 0.323IC + 0.237KMS + 0.344IC*KMS

Where: P = Performance; IC = Intellectual capital; KMS = Knowledge management strategies.

4.3 Discussion of findings

The objective of the study was to establish the moderating effect of knowledge management strategies on the relationship between intellectual capital and performance. This corresponded with the hypothesis stated as H_0: knowledge management strategies have no moderating effect on the relationship between intellectual capital and performance. To test this hypothesis, the moderating variable, knowledge management strategies, was indicated by 4 sub-variables, including acquisition and creation, capturing strategies, transferability/sharing and integration and networking.

The study proceeded to test H_0 by running a hierarchical regression analysis, whose results reveal that the interaction term had a significant influence on the association between intellectual capital and performance was significant (β =.152, p-value < 0.05), therefore meeting the conditions for moderation. This implied that for each 1% variation in the association between intellectual capital and knowledge management strategies, there was a corresponding 15.2% change in performance across a majority of the large manufacturing firms in Kenya. The results therefore rejected H_0, stating that knowledge management strategies have no moderating effect on the relationship between intellectual capital and performance.

The finding implies that the extent to which firms' intellectual capital results in desirable performance is dependent on the knowledge management strategies employed thereof.

Particularly, the findings mean that intellectual capital in firms characterized with high use of knowledge management strategies are likely to outperform intellectual capital in firms with low overall levels of knowledge management strategies. Intellectual capital influences performance by tapping into all of the available knowledge within the organization and by utilization of collected best practices. As such, the level of knowledge management employed by various firms determine the extent to which intellectual capital influences performance among large manufacturing firms in Kenya.

5.1 Conclusion

The study concludes that knowledge management strategies have a significant moderating influence on the association between intellectual capital and performance significant. As such, the extent to which firms' intellectual capital results in desirable performance is dependent on the knowledge management strategies employed thereof. By tapping into all of the available knowledge within and outside the firm, capturing, sharing and integrating it on the organizational memory, large manufacturing firms in Kenya enhance their employee skills and expertise, broaden their learning and development framework, enrich their research and development, improve their systems and programs, enhance their intellectual property rights as well as strengthen their relational capital for a superior and sustained organizational performance.

6.1 Recommendations

The study recommends that the government, in collaboration with the Kenya Association of Manufacturers, offers support services in promotion of knowledge management strategies among large manufacturing firms in the country. Particularly, the government could fund the development of resource centers around major towns in the country, where employees from manufacturing firms could acquire and share knowledge on innovations and best practices in production processes for a superior performing manufacturing sector.

The study recommends that large manufacturing firms in the country seeking to improve their performance improve their knowledge management strategies in order to enhance the extent to which intellectual capital thereof, yields desirable organizational performance. This can be achieved by tapping into the wealth of knowledge in the external environment to inform their production and human resource management processes and practices for innovation and performance improvements; capturing knowledge to enable assimilation which then enables them to take action on the knowledge and actualize all of its potential value; encouraging knowledge transferability/sharing for enhanced synergy within the firm; and promoting knowledge integration and networking into the organizational memory for use in its management of human resources and informing innovation.

References

Abeysekera, I. ((2010). "The influence of board size on Intellectual Capital disclosure by Kenya listed firms." *Journal of IC, 11 (4),* 504-518.

Alavi, M., & Leidner, D. E. (2019). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly*, 107-136.

Becker, B.E and Hussein, M.A (1998). High performance work systems and firm performance; A synthesis of research and managerial applications. Research in personnel and human resource management, 16, 53 -101.

Booker, L., Bontis, N. and Serenko, A. (2008). The relevance of knowledge management and Intellectual Capital research, Knowledge and Process Management, 15(4), 235 – 46.

Curado, C. & Bontis, N. (2007). Managing Intellectual Capital: the MIC Matrix, *International Journal of Knowledge and Learning*, 3 (2/3), 316 – 28.

Fan-Chuan, T. & Yen-Jung, F. (2011). Exploring the influence of organizational ethical climate on knowledge management. *Journal of Business Ethics*, 101(2), 325-342

Gao, W., He, X.J. & Wang, H. (2009). The impact of knowledge integration on firm performance. *Journal of International Technology and Information Management*, 18(2), 239-258

Ghosh, S. (2009). "Indian Software and pharmaceutical sector IC and financial performance" *Journal of Intellectual Capital, 10 (3),* pp. 369-388.

Grant, R.M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(52), 109-122

Hamel, G., & Prahalad, C. K. (1990). Strategic intent. *Mckinsey quarterly*, (1), 36-61.

HSU, I.C. (2011). From Intellectual Capital to firm Performance. The mediating Role of Knowledge Management Capabilities, IEEE Transactions on Engineering Management, 58(4):626-642.

Hussinki, H., Ritala, P., Vanhala, M. & Kianto, A. (2017). Intellectual capital, knowledge management practices and firm performance. *Journal of Intellectual of Intellectual Capital*, 18(4), 904-922

Junnarkar, B. & Brown, C.V. (1997). Re-assessing the enabling role of information technology in KM. *Journal of Knowledge Management*, 1(2), 142-148

Kianto, A. (2008). Development and validation of a survey instrument for measuring organizational renewal capability. *International Journal of Technology Management*, 42(1), 69-88

Kianto, A., Ritala, P., Spender, J.C. & Vanhala, M. (2014). The interaction of intellectual capital assets and knowledge management practices in organizational value creation. *Journal of Intellectual Capital*, 15(3), 362-375

Kogut, B. & Zander, U. (1992). Knowledge of the firm, combinative capabilities and the replication of technology. *Organization Science*, 3, 383-397

Ling, Y.H. (2013). The influence of intellectual capital on organizational performance-knowledge management as moderator. *Asia Pacific Journal of Management*, 30(3), 937-964

Matthew, C.T. & Sternberg, R.J. (2009). Developing experience based (tacit) knowledge through reflection. *Learning and Individual Differences*, 19(4), 530-540

Nonaka, I., & Takeuchi, H. (1995). The Knowledge Creating. *New York*, *304*.

Ordonez de Pablos, P. (2003). "Intellectual Capital reporting in Spain: a comparative review," *journal of IC, Vol. 4 No. 1*, pp. 61-81. MCB UP Ltd.

Rehman, W., Ilyas, M. & Asghar, N. (2015). Knowledge sharing, knowledge management strategy and performance. A knowledge based view. *Pakistan Economic and Social Review*, 53(2), 177-202

Reus, T.H., Ranft, A.L., Lamont, B.T. & Adams, G.L. (2009). An interpretive systems view of knowledge investments. *Academy of Management Review*, 34(3), 382-400

Serenko, A. & Bontis, N. (2009), Global ranking of knowledge management and intellectual capital academic journals, *Journal of Knowledge Management*, 13(1).

Teece, D. J., (1997). Dynamic capabilities and strategic management. *Strategic Management Journal. Vol. 18.* 509-533.

Wang, J., Peters, H.P. & Guan, J. (2006). Factors influencing knowledge productivity in German research groups: lessons for developing countries. *Journal of Knowledge Management*, 10(4), 113-126

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic management journal*, *5*(2), 171-180.

Wiig, K, (2004). "People focused knowledge management: How effective decision making leads to corporate success," Butterworth. Heinemann, Oxford.