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## **Innovative Strategies and Performance of Cement Manufacturing Firms in Athi River Zone**

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## Innovative Strategies and Performance of Cement Manufacturing Firms in Athi River Zone

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### Abstract

The aim of this study was to examine the influence of innovative strategies on performance of cement manufacturing firms in Athi River Zone. The objectives examined the influence of process innovation strategy, product innovation strategy, technology innovation strategy and service innovation strategy on organizational performance of cement manufacturing firms in Kenya. The objectives was used as they are involved with various forms of innovation. The study concentrated on the influence of innovation strategies on organization performance of manufacturing firms in Kenya. The theories that informed the study are organizational control theory, disruptive innovation theory, technology acceptance model, diffusion innovation theory and resource based view theory. The study adopted a descriptive survey research design where the unit of analysis was 5 cement manufacturing firms in Athi River Zone. Test of hypothesis was done at 95% confidence interval. This study conducted correlation and regression to weigh the relationship between the independent and dependent variables. The regression of coefficients results show that technological innovation strategy and performance is positively and significantly related ( $\beta=0.197$ ,  $p=0.001$ ). The results further indicated that process innovation strategy and performance are positively and significantly related ( $\beta= 0.205$ ,  $p=0.000$ ). The results further indicated that product innovation strategy and performance are positively and significantly related ( $\beta= 0.183$ ,  $p=0.002$ ). Lastly, results showed that service innovation strategy and performance were positively and but insignificantly ( $\beta =0.031$ ,  $p=0.585$ ). The study sought to examine the influence of innovative strategies and performance of cement manufacturing firms in Athi River Zone. The study concluded that innovative strategies played a significant role on cement manufacturing firms. This is because there existed a positive and significant relationship between technological innovation strategy, process innovation strategy, product innovation strategy and service innovation strategy on cement manufacturing firms. The study recommends that the manufacturing firms should invest

in innovative technology to survive intense competition currently experienced in the manufacturing sector. Finally, it is recommended that manufacturing firms should invest in automating routine tasks to improve efficiency in the production process. The study further recommends that the firms should adopt business process reengineering and embark on minimizing waste in the manufacturing process.

**Keywords:** *Innovative Strategies, Performance, Cement Manufacturing Firms & Athi River Zone.*

### **1.1 Introduction**

Cement manufacturing sector in Kenya is extremely competitive. This is fueled by the fact that almost 90% of the cement manufactured in Kenya is locally consumed with statistics at the end of 2018 indicating that the national cement consumption stood at 6.3 million tons a year out of the 6.7 million tons that were manufactured. Cement manufacturing sector in the country is dominated by the six cement-manufacturing companies, which are Bamburi Cement Limited, Mombasa Cement Limited, East Africa Portland Cement Company, Savannah Cement Limited, ARM Cement Limited and National Cement Company Limited. As a result, the firms have been forced to develop innovative strategies that will ensure they have a competitive edge over their competitors to survive in the market which can only be achieved by employing strategic human resource management (Wanguu & Kipkirui, 2015). The cement manufacturing firms in Kenya are also faced with challenges major among them competition from imports and operational inefficiency in the industry. Other challenges include; high cost of electricity that is sometime in short supply and expensive due to the high tariffs imposed and high cost of fuel, high cost of coal which has to be imported and subjected to taxes (Murunga, 2016). In light of competition and other challenges faced by the cement-manufacturing firms in Kenya, the firms have implemented different strategies such as innovation in pursuit of efficiency and effectiveness (Chesaro 2013, Kenani, 2013).

An innovation strategy is a plan used by a company to encourage advancements in technology or services, usually by investing money in research and development activities. Innovative strategies are the means that promotes the implementation and development of new services and products (Abdi & Ali, 2013). Innovation strategy can help firms to overcome the problems they encounter and strive for a sustainable competitiveness. Innovation strategy has had a very substantial influence the performance of corporate by proving a position that is improved in the market position thus conveying greater performance and competitiveness. While the concept of organizational performance is based upon the idea that an organization support and success is largely attributed to human, capital and physical resources innovative strategies stands the test of time to bring about sustainability and competitiveness (Soi, 2016). Innovative strategies can enhance organization performance through its competitive advantage that it can create in an organization that uses it. Some of the innovative strategies that can be adopted for an organization to achieve its performance are product innovations strategy, process innovation, service innovation and technological innovation (Njeri, 2017). Use of technology innovation strategy can promote a friendly and helpful staff hence customer satisfaction.

These innovation strategies are seen to have an impact on how organization is run and the outcomes in terms of performance (Frank, Muturi & Gerard, 2017). Technology increase human performance when human or employees use technology for the benefits of the organization and use with ethical values. Individual person cannot adopt technology easily and on the other side group of people can adopt technology easily. Organization cannot run without or with old

technology lest it progress to extinction. For the study, technological innovation was evaluated on basis of automation and real-time production. Process innovation can be viewed as an implementation of a new or an improved production or delivery method which includes changes in techniques, equipment and software (Omachonu & Einspruch, 2010). Davenport (2013) takes note of that process innovation<sup>1</sup> includes the radical improvement of new services and items and new generation frameworks in an inventive way. Inventiveness here incorporates noteworthy upgrades in gear, generation strategies or programming. Process innovation comprise of new generation techniques/production methods and new sources of crude materials, semi-completed items or segments. Product innovation is unavoidable if organizations are to stay applicable and manageable.

There are many different theories that have been put forward meant to bringing out the connection between product innovation and organizations performance. These theories can either avow or dismiss the solid establishment between product innovation and organization performance. If not nurtured through continuous improvements, the products are bound to decline and die naturally like any living being. With this understanding, product innovations are expected to be continuous and deliberate strategic approach if organizations expect to sustain profitability and growth. Service innovation is increasingly seen as a vector of sustainable growth and competitive advantage at the firm-, industry- and economy level (Nambisan, 2013). With the increasing growth of services in today's organizations and economy, the importance of understanding service innovation concepts and practices has been on constant upsurge. Currently, service innovation has evolved into a vast field encompassing the study of intangible processes and dynamic interactions among technological and human systems that lead to managerial and organizational change in services.

### **1.2 Statement of the problem**

The role of the cement companies in the Kenyan economy has increased significantly in the recent past especially due to the growth in the construction industry in the country. The sector, however, continues to face myriad of challenges that have seen it not realize its full potential. As Kenya races towards being a manufacturing hub, driven by Kenya Vision 2030 and Government's 'Big Four' agenda set around housing, manufacturing, agriculture and health, there are many opportunities for the cement manufacturing firms sector in the construction and manufacturing. The poor performance is signaled by cement firms such as East Africa Portland Cement Company (EAPCC), which laid off over 620 worker staff in 2019. ARM Cement and East African Portland Cement Company, are currently experiencing problems that have led to ceasing of production. This is a major cause for concern and we thus ask what could be the reason behind the poor performance. Some studies point the profits falling to inadequate in innovation and operational inefficiencies. Thus, this study sought to bring new knowledge into the cement manufacturing firms by assessing the influence of innovative strategies on performance these cement manufacturing firms in Kenya.

### **1.3 Objective of the study**

The objective of this study was to examine the influence of innovative strategies and performance of cement manufacturing firms in Athi River Zone.

### **1.3.1 Specific Objectives**

- i. To evaluate the influence of technological innovation strategy on performance of cement manufacturing firms in Athi River Zone.
- ii. To examine the influence of product innovation strategy on organizational performance of cement manufacturing firms in Athi River Zone.
- iii. To determine the influence of process innovation strategy on performance of cement manufacturing firms in Athi River Zone.
- iv. To explore the influence of service innovation strategy on performance of cement manufacturing firms in Athi River Zone.

## **2.1 Review of Literature**

### **2.1.1 Technology Acceptance Model Theory**

Davis (1993) corroborated the theory. This theory elaborates the phenomenon that can affect and shape users' acceptance of new information technology. It is comprised of two specific variables that are vital determinants of users' attitude toward using technology and actual use of the system. These two variables are perceived usefulness and perceived ease of use with reference to the innovative technology that the user ought to adopt (Cheung & Vogel, 2013). These two variables consider the utility and the simplicity of the new technology to the prospective users, in matters innovation. The perceived usefulness explains the degree to which how much somebody trusts that utilizing a framework will improve their execution (Park, Nam, & Cha, 2012). The clients ought to comprehend the extent to which the framework and development uncovered to utility of their tasks. Perceived ease of use is the degree to which user believes that benefits of systems' use outweighs the efforts for using it. The simplicity and the understandable nature of the innovation and system are the properties that involve ease of use. In the process of technology adoption, individuals have to assess their attitudes towards this new information technology, in order to prevent a failure in implementation, waste of resources and sustainability (Kim, & Shin, 2015). The theory is relevant as it informs the study on innovations which allows efficiency in execution of operation. The users need to have a positive attitude towards the use of technology for innovation. With this, they can be able to use the new technology with ease as they execute their duties. Technology adoption by the manufacturing firm cannot only bring ease with which operations are executed but a competitive advantage in favor of technology adopting firm.

### **2.2.2 Empirical Review**

Mohamud (2017) explored the relationships between service innovation, customer value creation (CVC) and customer satisfaction (CS) with specific emphasis to Ghanaian telecommunication operators. The study unveiled that a service firm's ability to achieve CS is dependent on how telecommunication operators harness and deploy their service innovation activities. In addition, the study showed that CVC mediated the relationship between service innovation and CS. The study concluded that, service innovation must create value for customers in order to enhance CS.

Maurice (2013) explored the connection between organization execution and item innovation by development. The findings of the study were deciphered utilizing Likert model and SPSS bundle for the examination of some appropriate measurable strategies, for example, factor examination, regression, and dependability examination. The discoveries demonstrated that the effect of product innovation on performance execution was higher in Nigeria when shoppers perceive item



development as more grounded, progressively good and increasingly exceptional. Innovativeness/quality of the creativity procedure applies a positive impact on product development and performance within the organization. In this manner, it was suggested that imaginative/quality advancements ought to be kept up consistently to create appropriate items constantly.

Ndungu, Njati and Rukangu (2016) determined the impact of technological advancement on organization's performance. From the investigation findings, it was presumed that money related execution of business banks' branches in Meru towns is decidedly impacted by development. Innovation selection by business banks shows a high capability of financial performance enhancement in this manner yielding expanded returns for the investors. Innovations flexibility has come about to their expanded reception rate among the banks and their clients with the take-up additionally quickened by the way that the appropriation is from both the banks and their clients. The recommendations of the study were that banks can manage their costs better in continuing to invest in technology innovation as opposed to continued investment in brick and motor branches. The internet and mobile channels can process a higher volume of transactions compared to the use of the conventional manual processes.

Nyamoita (2015) determined the impact of process development in service organizations in Kenya. The discoveries demonstrated a positive factually noteworthy relationship between sale of power, a proportion of the prepaid process innovation and money related execution pointer of profit for resources. Customer and sales (kWh) per representative, with 0.727 and 0.599 significance individually does not influence the monetary execution. The asset structure fundamentally influences the money related execution negatively with a significance of 0.004. Debt proportion with importance of 0.522 does not significantly affect money related execution of KPLC. The study prescribed that there was requirement for government to encourage innovation among the service organizations which was turn anticipated that would enhance income gathering, enhance utility charging and exactness, decrease pointless expenses and be increasingly focused in the market.

Ngumi (2014) established the built up impact of bank advancements on money related execution of Commercial banks in Kenya. The research concentrated on innovations in the area of automated teller machines, debit and credit cards, internet banking, mobile banking, electronic funds transfer and point of sale terminals. The study findings revealed that bank innovations had factually significant effect on salary, return on resources, and benefit and client stores of business banks in Kenya. It additionally uncovered that cell phones had a higher directing impact than web benefits on the bank innovations while affecting budgetary execution of business banks in Kenya. It was inferred that bank an innovations impacted financial execution of business banks in Kenya decidedly. is the study therefore recommended to the management of commercial banks and the Government continue to explore and implement sustainable business linkages and collaborations with mobile phone service providers as well as the internet service providers as a way of accelerating the penetration of innovations and eventually creating desired impacts in the economy.

### **3.1 Methodology**

The study employed a descriptive research design. A descriptive research design was used at it enabled the researcher to describe the characteristics of the variables of interest. The target population was all the 204 senior staff in the 6 cement manufacturing firms in Athi River Zone.

Therefore, the 135 respondents was apportioned as per the target population. Primary data was collected by means of a semi-structured questionnaire.

**Table 1: Sample Size**

No	Firm	Sample Size
1	Bamburi Cement Limited	23
2	National Cement Company Limited	21
3	Mombasa Cement	25
4	East Africa Portland Cement Company	21
5	Savannah Cement	23
6	ARM, Africa Ltd	21
	<b>Total</b>	<b>135</b>

A regression model was used to test the influence of innovative strategies on organizational performance. This helped to evaluate and understand the relationships between the dependent and independent variables of the study.

## 4.0 Results and Findings

### 4.1 Correlation Analysis

Correlation analysis was conducted to establish the relationship between the independent and dependent variables.

**Table 2: Correlation Matrix**

		Performance	Technological Innovation Strategy	Process Innovation Strategy	Product Innovation Strategy	Service Innovation Strategy
Performance	Pearson Correlation	1.000	.778**			
	Sig. (2-tailed)		0.000			
Technological Innovation Strategy	Pearson Correlation	.778**	1.000			
	Sig. (2-tailed)	0.000				
Process Innovation Strategy	Pearson Correlation	.763**	.706**	1.000		
	Sig. (2-tailed)	0.000	0.000			
Product Innovation Strategy	Pearson Correlation	.773**	.756**	.696**	1.000	
	Sig. (2-tailed)	0.000	0.000	0.000		
Service Innovation Strategy	Pearson Correlation	.699**	.705**	.707**	.746**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

The results in Table 2 revealed that technological innovation strategy and performance of cement manufacturing firms are positively and significantly related ( $r= 0.778$ ,  $p=0.000$ ). The results further indicated that process innovation strategy and performance of cement manufacturing firms are positively and significantly related ( $r= 0.763$ ,  $p=0.000$ ). Product innovation strategy and performance of cement manufacturing firms was positively and significantly related ( $r= 0.773$ ,  $p=0.000$ ). Lastly, results showed that service innovation strategy and firm performance are positively and significantly related ( $r= 0.699$ ,  $p=0.000$ ). This implies that an increase in technological innovation strategy, process innovation strategy, product innovation strategy and service innovation strategy leads to an increase on performance of cement manufacturing firms.

## 4.2 Diagnostic Tests

### 4.2.1 Multicollinearity Test

Multicollinearity test was conducted to determine if two or more of the predictor (independent) variables in the regression model was highly correlated. Variance inflation factor (VIF) were used to test multicollinearity and VIF of below 10 indicated acceptable limits. If the VIF value of exploratory variables are greater than 10, then variables were regarded as highly collinear.

**Table 3: Multicollinearity Test Using Tolerance and VIF**

	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Technological Innovation Strategy	0.35	2.857
Process Innovation Strategy	0.399	2.509
Product Innovation Strategy	0.325	3.081
Service Innovation Strategy	0.359	2.783

From the findings above all the variables had tolerance values  $>0.2$  and VIF values  $<10$  as shown in Table 4 and thus according to Myres (2015) who indicated that where  $VIF \geq 10$  indicate presence of Multicollinearity, there was no multicollinearity among the independent variables.

### 4.2.2 Test for Heteroscedasticity

Heteroscedasticity is the circumstance in which the variability of a variable is unequal across the range of values of a second variable that predicts it. Running a regression model without accounting for heteroscedasticity would lead to unbiased parameter estimates. To test for heteroscedasticity, the Breusch-Pagan/Godfrey test was used. Heteroscedasticity test was run using Breusch-Pagan / Cook-Weisberg test in order to test whether the error terms are correlated across observations in the cross sectional of the data (Long & Ervin, 2000). The hypothesis was that;

$H_0$ : Data does not suffer from Heteroscedasticity.

If the p-value is less than 0.05, the null hypothesis is rejected.



**Table 4: Heteroscedasticity Results**

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity		
Ho: Constant variance		
Variable: fitted values of Performance		
chi2(1)	=	2.00
Prob > chi2	=	0.157

Results in Table 4 show that the p-value is greater than the 5%. Then the alternative hypothesis was rejected at a critical p value of 0.05 since the reported value was  $0.157 > 0.05$  and thus the data did not suffer from heteroscedasticity.

### 4.3 Regression Analysis

The study sought to carry out regression analysis to establish the statistical significance relationship between the technological innovation strategy, process innovation strategy, product innovation strategy and service innovation strategy on performance of cement manufacturing firms. The results presented in Table 5 present the fitness of model used of the regression model in explaining the study phenomena.

**Table 5: Model Fitness**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.856a	0.732	0.721	0.2504

The variables technological innovation strategy, process innovation strategy, product innovation strategy and service innovation strategy were found to be satisfactory variables in explaining firm performance of cement manufacturing firms. This is supported by coefficient of determination also known as the R square of 0.732. This means that technological innovation strategy, process innovation strategy, product innovation strategy and service innovation strategy explain 73.2% of the variations in the dependent variable, which is performance of cement manufacturing firms. This results further means that the model applied to link the relationship of the variables was satisfactory.

The Analysis of Variance (ANOVA) results are shown in Table 6.

**Table 6: Analysis of Variance**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	16.647	4	4.162	66.351	.000b
Residual	6.084	97	0.063		
Total	22.731	101			

The findings further confirm that the regression model of is significant and supported by  $F= 66.351$  ( $p < 0.000$ ) since p-values was 0.000 which is less than 0.05.

The study conducted a regression of coefficient analysis to establish the statistical significance relationship between the independents variables notably technological innovation strategy, process innovation strategy, product innovation strategy and service innovation strategy on the dependent variable that was performance of cement manufacturing firms

The regression of coefficient results are as shown in Table 7.

**Table 7: Regression of Coefficients**

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.932	0.140		13.779	0.000
Technological Innovation Strategy	0.197	0.057	0.304	3.426	0.001
Process Innovation Strategy	0.205	0.054	0.314	3.769	0.000
Product Innovation Strategy	0.183	0.059	0.288	3.127	0.002
Service Innovation Strategy	0.031	0.057	0.048	0.548	0.585

The regression of coefficients results show that technological innovation strategy and performance is positively and significantly related ( $\beta=0.197$ ,  $p=0.001$ ). The results further indicated that process innovation strategy and performance are positively and significantly related ( $\beta= 0.205$ ,  $p=0.000$ ). The results further indicated that product innovation strategy and performance are positively and significantly related ( $\beta= 0.183$ ,  $p=0.002$ ). Lastly, results showed that service innovation strategy and performance were positively and but insignificantly ( $\beta =0.031$ ,  $p=0.585$ ).

The multiple regression model was laid as below.

$$Y= 1.932+ 0.197X_1 + 0.205X_2 + 0.183X_3 + 0.031X_4$$

#### 4.4 Discussion of Findings

##### 4.4.1 Technological Innovation Strategy and Performance

The first objective of the study was to evaluate the influence of technological innovation strategy on performance of cement manufacturing firms in Athi River Zone. Correlation results indicated that technological innovation strategy and performance of cement manufacturing firms are positively and significantly related. Regression results indicated that technological innovation strategy and performance is positively and significantly related. This means that a unitary improvement in technological innovation strategy leads to an improvement in on performance of cement manufacturing firms by 0.197 units holding other factors constant. The findings are consistent with Imran (2014) who found that technological advancement had noteworthy effect on inspiration and training of employees. Inspiration had noteworthy effect on worker execution however; training had no significant effect on employee performance. Moreover as the concerned for technological advancement and employee performance, there was significant relationship among them. Sibanda (2015) study findings revealed that consumers are becoming more empowered; therefore, organizations need to be more flexible in their business models and strategies. Furthermore, the integration of cross-functional roles in the organization at the

management level allow for improved alignment between information technology and strategy as better integrated roles bring a combination of these two elements.

#### **4.4.2 Product Innovation Strategy and Performance**

The second objective of the study was to evaluate the influence of product innovation strategy on performance of cement manufacturing firms in Athi River Zone. Correlation results indicated that product innovation strategy and performance of cement manufacturing firms are positively and significantly related. Regression results indicated that product innovation strategy and performance is positively and significantly related. This means that a unitary improvement in product innovation strategy leads to an improvement in on performance of cement manufacturing firms by 0.031 units holding other factors constant. The findings are consistent with Gima and Li (2015) who found that, the innovation execution interface was dependent upon both environmental elements, including natural disturbance and institutional help, and the relationship-based methodologies of the endeavors, for example, strategic unions for product improvement and political systems administration. Their outcomes proposed the requirement for concurrent thought of condition and relationship-based methodology factors as moderators in the discourse on product innovation strategy among new technology ventures. The findings are also in line with Maurice (2013) whose findings demonstrated that the effect of product innovation on performance execution was higher in Nigeria when shoppers perceive item development as more grounded, progressively good and increasingly exceptional. Innovativeness/quality of the creativity procedure applies a positive impact on product development and performance within the organization. In this manner, it was suggested that imaginative/quality advancements ought to be kept up consistently to create appropriate items constantly.

#### **4.4.3 Process Innovation Strategy and Performance**

The third objective of the study was to evaluate the influence of process innovation strategy on performance of cement manufacturing firms in Athi River Zone. Correlation results indicated that process innovation strategy and performance of cement manufacturing firms are positively and significantly related. Regression results indicated that process innovation strategy and performance is positively and significantly related. This means that a unitary improvement in process innovation strategy leads to an improvement in on performance of cement manufacturing firms by 0.183 units holding other factors constant. The findings are in line with Agyei-Mensah (2017) whose study findings indicated that, Product innovation, marketing innovation and process innovation had a moderate relationship with organizational performance. However, organizational innovation and collaborations had a weak relationship with organizational performance. Nyamoita (2015) study demonstrated a positive factually noteworthy relationship between sale of power, a proportion of the prepaid process innovation and money related execution pointer of profit for resources. Customer and sales (kWh) per representative, with 0.727 and 0.599 significance individually does not influence the monetary execution. The asset structure fundamentally influences the money related execution negatively with a significance of 0.004. Debt proportion with importance of 0.522 does not significantly affect money related execution of KPLC. Kenfac and Yang (2013) established that the utilization of process innovation positively affect the regions budgetary and clients performance. Additionally, the significance of process development as a well ordered process and not an abrupt change was found to be critical for a successful process innovation.

#### **4.4.4 Service Innovation Strategy and Performance**

The fourth objective of the study was to evaluate the influence of service innovation strategy on performance of cement manufacturing firms in Athi River Zone. Correlation results indicated that service innovation strategy and performance of cement manufacturing firms are positively and significantly related. Regression results indicated that service innovation strategy and performance is positively and significantly related. This means that a unitary improvement in service innovation strategy leads to an improvement in on performance of cement manufacturing firms by 0.183 units holding other factors constant. The findings agree with Lin (2013) who established that service innovation affected firm performance through direct and indirect paths where service quality plays a positive mediating role, and the direct impact is larger than the indirect one; Similarly, the innovation mode is cost-reductive, which focuses on eliminating internal cost rather than improving service quality; Further, the assessment of service quality emphasizes the dimensions of assurance and reliability.

Mohamud (2017) explored the relationships between service innovation, customer value creation (CVC) and customer satisfaction (CS) with specific emphasis to Ghanaian telecommunication operators. The study unveiled that a service firm's ability to achieve CS is dependent on how telecommunication operators harness and deploy their service innovation activities. Ngumi (2014) findings revealed that bank innovations had factually significant effect on salary, return on resources, and benefit and client stores of business banks in Kenya. Aas and Pedersen (2014) supported the proposition that firms focusing on service innovation have significantly higher growth of operating results than firms not focusing on service innovation. However, this proposition was not supported in a corresponding analysis of 1132 Norwegian firms in the service industries. They elaborated on these results by investigating a variety of performance measures and by comparing the effects of service innovation between manufacturing and service industries.

#### **5.1 Conclusion**

The study sought to examine the influence of innovative strategies and performance of cement manufacturing firms in Athi River Zone. The study concluded that innovative strategies played a significant role on cement manufacturing firms. This is because there existed a positive and significant relationship between technological innovation strategy, process innovation strategy, product innovation strategy and service innovation strategy on cement manufacturing firms. Based on the findings in relation to specific objective, the study concluded that innovative strategies positively lead to competitive performance.

The study concludes that, the cement-manufacturing firm's ability to introduce new improved product to facilitate their entry and creation of new markets for their services, application of modern technologies and innovative strategies to target specific markets well as the introduction of new product/service designs affect their performance. This is as this allows them to enter the market and acquire a significant share of the market boosting their customer base and consequently bringing about their improved profitability and competitiveness.

#### **6.1 Recommendations**

The study recommends that the manufacturing firms should invest in innovative technology to survive intense competition currently experienced in the manufacturing sector. The study recommended that manufacturing firms should invest in automating routine tasks to improve efficiency in the production process. The study further recommends that the firms should adopt

business process reengineering and embark on minimizing waste in the manufacturing process. This will reduce production costs and improve overall performance. The manufacturing firms should restructure organizational structures to enhance inter-functional team working, as it will provide smooth environment for innovations.

Further, the study recommends that the manufacturing firms should continuously produce new products and re-engineer existing products to prolong the product life cycle. This will increase the firms' returns. In addition, manufacturing firms should invest on increasing product portfolio to spread the market risk and enhance performance. The study recommends that manufacturing firms should keenly invest in technology to support firm strategy. The study recommends that manufacturing firms should have a process feedback channel that captures customer complaints and effectively use the complaints to improve service and products.

Lastly, the study recommends that the firms should design a marketing strategy that makes customers feel a part of the company through social responsibility and promotions. The study recommended that the cement-manufacturing firms should invest in benchmarking with the best technology in the industry to cut a niche in the industry without necessarily reinventing the wheel.

## References

- Bhappu, A. D., & Schultze, U. (2006). The role of relational and operational performance in business-to-business customers' adoption of self-service technology. *Journal of Service Research*, 8(4), 372-385.
- Bowers, C. A., Baker, D. P., & Salas, E. (1994). Measuring the importance of teamwork: The reliability and validity of job/task analysis indices for team-training design. *Military Psychology*, 6(4), 205.
- Brooks, C. (2008). *RATS Handbook to accompany introductory econometrics for finance. Cambridge Books.*
- Camisón, C., & Villar-López, A. (2014). Organizational innovation as an enabler of technological innovation capabilities and firm performance. *Journal of business research*, 67(1), 2891-2902.
- Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is disruptive innovation. *Harvard Business Review*, 93(12), 44-53.
- Chux, G. I. (2010). Impact of product development and innovation on market share. *African Journal of Business Management*, 4(13): 2659-2667.
- Cohen J, Cohen P, West SG, Aiken LS (2003) Applied multiple regression/correlation analyses for the behavioral sciences, 3<sup>rd</sup> edition. *Lawrence Erlbaum*, Mahwah, NJ.
- Gunday, G., Ulusoy, G., Kilic, K., & Alpkan, L. (2011). Effects of innovation types on firm performance. *International Journal of production economics*, 133(2), 662-676.



- Hervas-Oliver, J. L., Sempere-Ripoll, F., & Boronat-Moll, C. (2014). Process innovation strategy in SMEs, organizational innovation and performance: a misleading debate?. *Small Business Economics*, 43(4), 873-886.
- Kamakia, S. (2014). "Effect of product innovation on performance of commercial banks in Kenya." MBA thesis, Kenyatta University.
- Karabulut, A. T. (2015). Effects of Innovation Strategy on Firm Performance: A Study Conducted on Manufacturing Firms in Turkey. *Procedia-Social and Behavioral Sciences*, 195, 1338-1347.
- Kenya Association of Manufacturers. (2018) *Sectors*. <http://www.kam.co.ke/index.php/kam-sectors>
- Kombo, H. K., K'Obonyo, P., & Ogutu, M. (2016). Knowledge Strategy and Innovation in Manufacturing Firms in Kenya. *International Academic Journal of Human Resource and Business Administration*, 3(4), 207-227.
- Magutu, P. O. (2013). Supply chain strategies, technology and performance of large-scale manufacturing firms in Kenya. *Unpublished PhD thesis, University of Nairobi*.
- Makowsky, M. J., Guirguis, L. M., Hughes, C. A., Sadowski, C. A., & Yuksel, N. (2013). Factors influencing pharmacists' adoption of prescribing: qualitative application of the diffusion of innovations theory. *Implementation Science*, 8(1), 109.
- Mose, J. M., Njihia, J. M., & Magutu, P. O. (2013). The critical success factors and challenges in e-procurement adoption among large scale manufacturing firms in Nairobi, Kenya. *European Scientific Journal, ESJ*, 9(13).
- Mugenda, A. G. "Social Science Research: Theory and Principles. Nairobi." *Kijabe printers* (2008).
- Mugenda, O. M., & Mugenda, A. G. (2012). Research methods dictionary. A conceptual framework', *The Innovation Journal: The Public Sector Innovation Journal*,
- Mwanyota, J. L., Maalu, J. K., & Njihia, M. J. (2017). The Influence of Process Innovation and Operational Performance on the Relationship between Adoption of Reverse Logistics and Competitive Advantage: A Critical Review of Literature. *DBA Africa Management Review*, 7(2).
- Mwaura, A. W., Letting, N., Ithinji, G. K., & Orwa, B. H. (2016). Green distribution practices and competitiveness of food manufacturing firms in Kenya.
- Nambisan, S. (2013). Information technology and product/service innovation: A brief assessment and some suggestions for future research. *Journal of the Association for Information Systems*, 14(4), 215.
- Naran, M. (2013). *The effect of company size and voluntary disclosure on financial performance of commercial banks in Kenya* (Doctoral dissertation, University of Nairobi).

- Nasiri, A., Alleyne, A. R., & Yihui, L. (2016). Analysis of innovation management in German enterprises. *Cogent Business & Management*, 3(1), 1216727.
- Ndunga, R., & Ibuathu, C. R. (2016). S. Influence of Technological Innovation on Bank Performance in Meru Town, Kenya [J]. *International Journal of Economics, Commerce and Management*, 4(11), 481-495.
- Newbert, S. L. (2007). Empirical research on the resource-based view of the firm: an assessment and suggestions for future research. *Strategic management journal*, 28(2), 121-146.
- Njeri, A. (2017). *Effects of Innovation Strategy on Firm Performance in Telecommunications Industry: A Case of Safaricom Kenya Limited* (Doctoral dissertation, United States International University-Africa).
- Omachonu, V. K., & Einspruch, N. G. (2010). Innovation in healthcare delivery systems: a conceptual framework. *The Innovation Journal: The Public Sector Innovation Journal*, 15(1), 1-20.
- Schumpeter, J. A. (1934). Change and the Entrepreneur. *Essays of JA Schumpeter*.
- Sekaran, U., & Bougie, R. (2010) Research Methods for Business: A Skill Building Approach, (5th Edition). Hoboken, N.J./Chichester: *John Wiley and Sons*.
- Sintset Kenfac, G., Nekoumanesh, S., & Yang, M. (2013). Process Innovation: Impacts on Organization's Performance: *A Qualitative Study of Four Swedish Municipalities*.
- Soi, C. C. (2016). *Effect of Innovation Strategies on the Performance of Firms in the Telecommunication Industry in Kenya* (Doctoral dissertation, United States International University-Africa).
- Swanson, R. (2009). *Analysis for improving performance. Tools for Diagnosing organisations and documenting workplace expertise*. Beijing.
- Tahir and Razali (2012). The Relation between Enterprise Risk Management and Firm Value: Evidence from Malaysian Public listed Companies. *International Journal of Economics and Management*. No. 2, pp 32-41.