

## Effect of Market Innovation on Performance of the Cement Manufacturing Firms in Kenya

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### Abstract

Marketing innovation refers to the implementation of new marketing methods and models that would significantly change the product design or packaging, product placement or pricing. Market development is worried about enhancing the blend of target markets and how picked markets are best served. The objective of the study was to determine whether market innovation affects the performance of the cement manufacturing firms in Kenya. The study was guided by the theory of marketing. It adopted descriptive research design. The target population was all the department heads in all the nine cement manufacturing firms. The total number of departments in all the firms was 79. All the 79 respondents were included in the study since the target population was small. Primary data was collected through closed-ended questionnaires. Descriptive statistics, specifically frequencies, percentages and means were used. Further, inferential statistics; that included the correlation and regression analysis were also used to assess the relationship between the study variables. The findings revealed that market innovation positively and significantly affect performance of the cement manufacturing firms in Kenya. The study concluded that market innovations have a positive and significant effect on performance of the cement manufacturing companies in Kenya. The cement industry in Kenya need to invest more on market innovation. This point out the need for the cement manufacturing firms in Kenya to innovate their marketing programs in order to sustain high performance. Such programs should focus on better ways of meeting customer's needs; enhancing product design, and embarking strategies of strengthening their competitiveness.

**Keywords:** *Market innovation, Performance, Cement manufacturing firms*

### 1.0 Introduction

Shergill and Nargundkar (2015) recently defined marketing innovation as the adoption of a new marketing method that differs significantly from the previous marketing method used by the firm and that has not been previously used by the firm. In relation to the current study, marketing innovation is describing as the adoption of new techniques that differs significantly from the previous marketing method used by the cement manufacturing firms and that has not been previously used by the organization. Market innovation can be characterized by new product pricing, new product design and new product promotion, new ways of spending a

product and development of a complete new market of a product among others. Simiyu (2013) conducted a study on market innovations adoption by commercial banks in Kenya. The findings revealed that banks had adopted several innovative marketing strategies. In addition, the study established that the banks had adopted product innovation strategies which helped them to earn more profit, achieve faster business growth. The study advocated for need to invest more on the same in order to improve the firm's productivity.

The study sought to explore inefficiency among cement producing firms in Kenya. According to the Kenya Association of Manufacturers report of 2016, the profit before tax for Athi River Mining decreased from KES 2 billion in year 2014 to a loss of KES 3.5 billion in 2015. The report further shows that even other cement producing firms including Bamburi Cement, East African Portland Cement, Mombasa Cement, National Cement, Savannah Cement Limited, RAI Cement Limited, Simba Cement and ARM cement limited have been experiencing challenges such as inflated power prices, fuel and coal which ultimately affect production efficiency and cost. Hence, there is inefficiency among the cement producing firms. Further, the report revealed a decline in the amount of cement produced and this implies a production problem. In this research, firm performance will be estimated in terms of profitability, production capacity and customer satisfaction.

There are nine cement manufacturing companies firms in Kenya. These are: Bamburi Cement, Athi River Mining Cement, East African Portland Cement, Mombasa Cement, National Cement, Savannah Cement Limited, RAI Cement Limited, Simba Cement and ARM Cement Limited (Chesaro, 2013). These firms, according to the Kenya Association of Manufacturers (2016) have been encountering difficulties, for example, high cost of power, fuel and coal which at last influence generation effectiveness and cost. This is on account of, deficient power supply caused by various power outages and power surges that influence the processing frameworks. To ensure cost is under control, these organizations reduce their level of production.

The demand for cement in Kenya is assessed to be around 3.5million tons every year (Ndetto, 2015). The companies deliver around 3.5 million tons, of which Bamburi Cement produces 2.3 million tons. The firms also export cement to other neighboring nations including Somalia, Democratic Republic of Congo, South Sudan, Mozambique, Rwanda and Burundi (Mumero, 2011). Despite such a big a market, the production capacity of Kenyan firms is very low compared to the global standards. For example, while Kenya's production capacity is about 3.5 million tons per year, while the production capacity of United States is around 86.3 million metric tons of cement per year.

### **1.1 Statement of the Problem**

Manufacturing companies adopt appropriate innovation to enhance effectiveness and efficiency in the production process; an action that enables them to improve overall performance. However, the business environment within which the cement manufacturing firms operate has been very volatile. Further, social reforms, political anxieties, technological advancements, competition from new entrants and effects of globalization are some of the challenges that have caused this volatility, and have greatly affected the growth and overall performance of firms in this sector (Swart & Robinson, 2014). Porter (2008) advised on the need for companies to develop a sustainable competitive environment, which cannot be easily affected by changes in the environment or replicated by potential and existing competitors. This advice underpins the need for strategic innovation.

In Kenya, currently, there is growing interest in the cement sector and new players are coming in after a long period of dormancy. The emergence of new players is witnessed by growth in Kenyan cement supply/demand evolution. The quantity demanded for example rose from 1.6 million tons per annum progressively since 1994 to 3.2 million tons in 2008, (Kenya Association of Manufacturers, 2008). Despite the increasing rise in demand for cement products, the firms in the industry are unable to meet this demand (Chesaro, 2013). As such, customers have raised concerns over the shortage of cement in the market. The low production could largely be linked to the lack of innovativeness in the production process to scale down the high cost of manufacturing at both the firm and industry level. Consequently, the profitability of some of the cement firms has continued to decline, for example, the profit before tax for Athi River Mining decreased from KES 2 billion in year 2014 to a loss of KES 3.5 billion in 2015 (Kenya Association of Manufacturers, 2016). This means that there is a problem of poor performance among the cement manufacturing firms.

If the problem is not addressed, the further decline in supply of cement will be experienced and risks the shutdown of some firms which may negatively affect the achievement of Kenya's development agenda of affordable housing in the next five years. Previous studies conducted have not examined the role of strategic innovation in influencing the performance of the cement manufacturing companies in Kenya. Majority of these studies, for example, Mbongwe (2014), Otido (2011) and Obiero (2008) focused on competitive strategies negating the role of strategic innovation in revitalizing production and operations in organizations. It is based on this research gap that the study sought to investigate the effect of product innovation, technological innovation, process innovation and market innovation on the performance of the cement manufacturing firms in Kenya. The hypothesis to be tested is;

**H0<sub>1</sub>:** Market innovation does not have a positive and significant influence on the performance of cement manufacturing firms in Kenya.

## **2.0 Literature Review**

### **2.1 Theoretical Framework**

This research is guided by the theory of marketing fronted by Philip Kotler in 1967. The theory stipulates that marketing is a social and administrative process by which people and gatherings get what they need through making, offering and trading valuable products with others (Kotler and Keller, 2015). As indicated by Kotler (1967), marketing was a fundamental component of economics and considered demand to be impacted by cost as well as by publicizing, deals advancement, deals drive, standard mail and different brokers, for example, operators, retailers and wholesalers working as deals and appropriation channels.

The marketing task of firms is to decide the necessities, needs and premiums of target advertises and to accomplish the coveted outcomes more adequately and productively than contenders, in a way that upgrades the purchaser's or society's prosperity (Kotler, 1967). Benefit rationale are connected as per the general inclination of buyers needs and society's prosperity (Kotler & Keller, 2015). Kotler holds that the marketing goal of improving buyers' prosperity must be put at the core of organization procedure and be embraced by the management (Kotler, 1967). Organizations compete with one another strategically to distinguish themselves in the area of service and quality within a market.

Successful organizations strongly focus on the service paradigm with investment in people, technology, personnel policy and remuneration systems for their employees. This is very

important as the behaviour of the employees can have a direct influence on the quality of the service (McCathy, 1975). In the 1960s, the American marketer, Jerome McCathy, provided a framework by means of the marketing mix: the 4 P's which include Price, Promotion, Product and Place which marketers can draw up a good marketing plan and improve operating results visibly by using the right combination and variables (Wilson, Zeithaml, Bitner & Gremler, 2012).

This theory is deemed relevant to this study as it explains the marketing innovation variable. According to Kotler (1967) assertion, marketing innovations is critical and demand is not only influenced by price, but also by advertising, sales promotion, sales force, direct mail and various middlemen such as agents, retailers and wholesalers operating as sales and distribution channels. As such, organizations such as the cement manufacturing firms adopt diverse marketing innovations in order to reach their target market. Therefore, this theory supports objective number four, which is marketing innovation and performance of organizations. The marketing theory has been criticized for only focusing on customers and sellers and failing to recognize other players in the marketing environment (Grier & Bryant, 2005). Nonetheless, this weakness is not likely to affect the application of the theory to the current study. The current study focused on market innovations and how they impact on organization performance.

## 2.2 Empirical Review

There exist several studies that have explored market innovation across several sectors, for example Shergill and Nargundkar (2015) recently defined marketing innovation as the adoption of a new marketing method that differs significantly from the previous marketing method used by the firm and that has not been previously used by the firm. In relation to the current study, marketing innovation is describing as the adoption of new techniques that differs significantly from the previous marketing method used by the cement manufacturing firms and that has not been previously used by the organization. Market innovation can be characterized by new product pricing, new product design and new product promotion, new ways of spending a product and development of a complete new market of a product among others.

Li and Schultz (2010) investigated whether it is possible for a company to create value for every segment within the construction industry in USA. Their study was motivated by the fact that the value addition aspect has received very little attention in the marketing literature, which is the business-to business commodity industry. The study by Li and Schultz focused on value addition while the current study focused on market innovation.

Maktoba, Tao, Raeside and Lewrick (2014) investigated the innovation capabilities using Chinese enterprises. The motive was to understand innovation capabilities and to find how they might relate to promoting innovativeness. Data for this research was obtained from a survey of enterprises in the Chinese provinces Liaoning and Henan which were analyzed using multiple regressions to ascertain how facets of innovation capabilities might enhance the likelihood of innovation success. The study found that focusing on customers tends to reduce innovation for Chinese companies, whilst competitor orientation, knowledge enhancement and management capability are associated with enhanced innovative ability. Maktoba, Tao, Raeside and Lewrick's study focused on innovation capabilities and how they promote innovativeness. Focusing on innovativeness promotion, the Chinese enterprises may be unable to specifically ascertain the effect of marketing innovation on performance.

Hollanders and Evangelista (2013) examined the pitfalls of marketing innovation and employed a feasible approach. The study concluded that marketing innovation enhances competitiveness. The study was conducted in Europe which has a different economic environment from that of Kenya.

Ifeduni and Charles (2018) examined the determinants of profitability of manufacturing organizations in Nigeria. The study focused on firms' size, leverage, lag profitability, capital base and productivity used. A panel data regression analysis via the fixed effect, random effect and Hausman test were conducted to analyze the data. The findings indicated that all the explanatory variables were important determinants of profitability. The study did not focus on market innovation and, therefore, presented a conceptual gap.

Waweru (2012) studied the influence of financial innovation on risk management in Kenyan banks. The results concluded that financial innovations have exposed commercial banks in Kenya on various risks such as credit risks, liquidity risk, interest rate risk, country risk, compliance risk and reputational risks. According to Waweru, all of these risks should therefore inform overall risk management of institutions through realistic risk index factors at any period. Waweru's study concentrated on financial innovations and how they influence risk management. Focusing on financial innovations, the organizations may not be able to understand the role of marketing innovation in influencing performance. Furthermore, the study did not cross examine the different types of innovations. In the current study, the intensity of marketing innovation was examined with a deeper assessment on how it impacts overall performance of cement manufacturing firms in Kenya.

### **3.0 Research Methodology**

A descriptive research design was used in this research. The study involved all the 9 cement manufacturing firms in Kenya. The target respondents were 79 department heads or their equivalents in all the cement manufacturing firms. The study adopted a census approach since the target population was small. Therefore, all the 79 department heads from all the 9 firms were selected. Purposive sampling technique was employed in selecting the respondents. Questionnaires were used to collect primary data from the selected respondents. The questionnaire tool consisted of closed-ended questions. Descriptive statistics such as mean and percentage were computed to capture the characteristics of the variables under study while inferential statistics, specifically the Pearson correlation and regression analysis were used to assess the relationship of the dependent and the independent variables.

### **4.0 Results and Discussion**

#### **4.1 Performance of Cement Manufacturing Firms in Kenya**

The performance of cement manufacturing firms in Kenya was the dependent variable in this study. The issue of performance of a firm is usually regarded as highly sensitive and confidential and hence not many companies can avail their financial data for scrutiny and analysis unless it is for formal audit purposes. As a result, this study was unable to obtain the actual performance figures and therefore relied on those items that intended to capture performance of the firm based on the perceptions of the heads of departments from each firm that participated in the study. The results are provided in Table 1.

**Table 1: Descriptive Statistics on Performance of Cement Manufacturing Firms in Kenya**

Statements N= 62	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
Our company's sale volumes have increased due to adoption of strategic innovations.	2(3.2%)	2(3.2%)	2(3.2%)	22(35.5%)	34(54.8%)	4.35
Due to interaction with strategic innovations, our employees are fully equipped with the necessary skills to enhance productivity.	1(1.6%)	1(1.6%)	9(14.5%)	23(37.1%)	28(45.2%)	4.23
Through strategic innovations, our company's cost of production has reduced significantly	1(1.6%)	3(4.8%)	5(8.1%)	26(41.9%)	27(43.5%)	4.21
Through market innovation, our customers' base has widened.	2(3.2%)	2(3.2%)	12(19.4%)	19(30.6%)	27(43.5%)	4.08
Through process innovation, our company's operational efficiency has improved.	2(3.2%)	4(6.5%)	9(14.5%)	21(33.9%)	26(41.9%)	4.05
Through technological innovation, our company's productive capacity has improved.	2(3.2%)	1(1.6%)	13(21.0%)	24(38.7%)	22(35.5%)	4.02
Through product innovation, our company's profitability has increased.	5(8.1%)	3(4.8%)	14(22.6%)	12(19.4%)	28(45.2%)	3.89
Aggregate mean score						4.12

The results in Table 1 indicate that the majority of respondents, (51, 82%), with a mean aggregate score of 4.12, agreed with the various assertions that aimed to determine the performance of the cement manufacturing firms in Kenya. Specifically, the respondents agreed with the following top three statements (the ones with highest mean scores) in describing the performance of the cement manufacturing firms: our company's sale volumes have increased due to adoption of strategic innovations (mean, 4.35), due to interaction with strategic innovations, our employees are fully equipped with the necessary skills to enhance productivity (mean, 4.23), through strategic innovations, and our company's cost of production has reduced significantly (mean, 4.21). The statement that had the lowest mean score was; through product innovation, our company's profitability has increased (mean, 3.89) although this score is also high.

These results are showing that the performance of the cement manufacturing firms is characterized by sale volumes, customers' base and profitability. It is also clear that the performance is dependent on operational efficiency, reduction of cost of production and the presence of skills that enhances productivity. According to Atalay, Anafarta and Sarvan (2013), innovation is a fundamental source of long run competitiveness, since it prompts product and process enhancements, makes advances that encourages firms to survive, enables firms to develop more rapidly, be more productive, and be more beneficial.

This point out the need for the cement manufacturing firms to focus on the manufacturing processes (process strategies) with a view to enhancing efficiency, and the need to embark on measures that help to reduce the costs of production (technological strategies), increase sales (marketing strategies) and enlarge the number of customers (products strategies) that are consuming firm's products. These measures help to improve the overall profit of a firm.

This finding supports the results by Veugelers (2012) who concluded that both process and product innovations significantly enhance the organizations' growth. Further, Baraev (2015) found that process innovation enhances efficiency of the firms. In addition, Munyoroku (2014) noted that technological innovation adopted by firms helps them to identify and explore new revenue opportunities and improve customer satisfaction through reliable delivery. Hollanders and Evangelista (2013) observed that market innovation enhances competitiveness, which translates into increased profits.

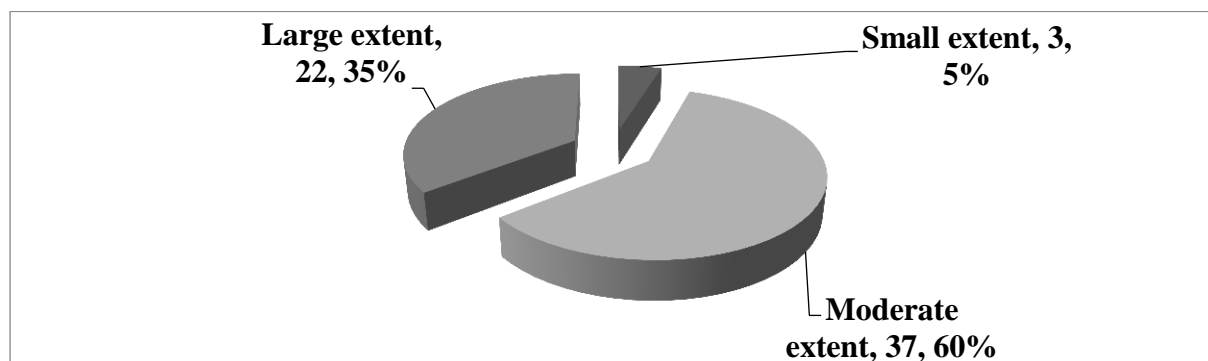
## 4.2 Market Innovation

Respondents were asked to indicate their level of agreement with the various statements in a 5-level Likert scale. Some of the aspects that were assessed included: meeting customer’s needs, product design, competitive strength, product pricing systems, new product promotion techniques, venturing into new markets, and budget allocation towards enhancing market. The descriptive results are shown in Table 2.

**Table 2: Descriptive Statistics of Market Innovation**

Statements N= 62	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
Our company’s market innovations are aimed at meeting customer’s needs.	5(8.1%)	3(4.8%)	3(4.8%)	25(40.3%)	26(41.9%)	4.03
Our company has developed a new product design which has enhanced market innovation	3(4.8%)	6(9.7%)	9(14.5%)	21(33.9%)	23(37.1%)	3.89
Our company focuses on the market in which it has competitive strength.	5(8.1%)	0	12(19.4%)	26(41.9%)	19(30.6%)	3.87
Through market innovation, our firm is able to meet our customers’ needs	2(3.2%)	10(16.1%)	18(29.0%)	20(32.3%)	12(19.4%)	3.48
Our company has developed an effective product pricing systems for both existing and new products.	2(3.2%)	10(16.1%)	18(29.0%)	20(32.3%)	12(19.4%)	3.48
Our company has adopted new product promotion techniques.	2(3.2%)	10(16.1%)	18(29.0%)	20(32.3%)	12(19.4%)	3.48
Our company has managed to venture into new markets	2(3.2%)	10(16.1%)	18(29.0%)	20(32.3%)	12(19.4%)	3.48
Our company has made sufficient budget allocation towards enhancing market innovation	3(4.8%)	12(19.4%)	25(40.3%)	16(25.8%)	6(9.7%)	3.16
Aggregate mean score						3.61

The results in Table 2 shows that the majority of respondents (45, 72.18%), with a mean aggregate score of 3.61, agreed with the various assertions that aimed to assess the effects of market innovation on the performance of the cement manufacturing firms in Kenya. The respondents were further asked to indicate the extent to which they think market innovation influences the performance of their firm. Out of the 62 respondents, 37 (60%) indicated a moderate extent, 22 (35%) large extent and 3 (5%) a small extent as shown in Figure 1.



**Figure 1: Extent to which market innovation influences the performance of a firm**

According to Table 2 it is clear that the respondents agreed with the following top three statements (the ones with highest mean scores) in describing the influence of market

innovation on performance: Our company’s market innovations are aimed at meeting customer’s needs (mean, 4.03), our company has developed a new product design which has enhanced market innovation (mean, 3.89), and our company focuses on the market in which it has competitive strength (mean, 3.87). The statement that had the lowest mean score (neutral mean score) was; our company has made sufficient budget allocation towards enhancing market innovation (mean, 3.16).

These findings provided four most essential aspects of market innovation that are significant in driving performance of the cement manufacturing firms in Kenya. These are: meeting customer’s needs, product design, and competitive strength. The results further point out the need for cement manufacturing firms to adopt new programs and processes in order to reduce the cost of production. This finding is consistent with the work of Shergill and Nargundkar (2015) who observed that marketing innovation involves the adoption of a new marketing method that differs significantly from the previous marketing method used by the firm and that has not been previously used by the firm.

### 4.3 Test of Hypothesis

An inferential statistical analysis was conducted to further investigate the relationship between the two variables. This helped to test the third null hypothesis which stated,  $H_{04}$ : market innovation does not have a positive and significant influence on the performance of cement manufacturing firms in Kenya. To test this hypothesis, a univariate linear correlation between market innovation and performance of manufacturing firms was conducted. The results are presented in Table 3.

**Table 3: Correlation between market innovation and firm performance**

Model		Y	X
Y	Pearson Correlation	1	.429**
	Sig. (2-tailed)		.001
	N	62	62
X	Pearson Correlation	.429**	1
	Sig. (2-tailed)	.001	
	N	62	62

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The result in Table 3 shows statistical evidence that market innovation positively and significantly influences the performance of the cement manufacturing firms in Kenya where  $r = .429^{**}$ , and  $P = .001$ . This finding is consistent with Simiyu (2013) who found that market innovation positively influences performance in a manufacturing organization. Market innovation variable was further subjected to a univariate regression to test its effect /impact on the performance of manufacturing firms in Kenya. The results are presented in Table 4, 5 and 6.

**Table 4: Market Innovations and Firm’s performance: Model Summary**

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	.429 <sup>a</sup>	.184	.170	.56628	.184	13.509	1	60	.001	2.253

Results in Table 4 indicate that market innovation accounts for 18.4% (R square value = .184) of the total variations in the performance of the cement manufacturing firms in Kenya.



These results confirm the correlations output in Table 6 that a positive and significant influence exists of market innovation on performance of the cement manufacturing firms ( $\beta_1 = .338$ ,  $P = .001$ ). Durbin-Watson value of 2.253 in model summary Table 4 is higher than 1. The Durbin-Watson value of 2.253 confirms that no autocorrelation was detected hence the model is reliable. Table 5 also indicates that the model is valid (a good fit of the data), ( $F(1, 60) = 13.509$ ), ( $P = .001$ ) which implies that market innovation is a statistically significant predictor of the performance of manufacturing firms in Kenya.

**Table 5: Market Innovations and Firms Performance: ANOVA Summary**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.332	1	4.332	13.509	.001 <sup>b</sup>
	Residual	19.240	60	.321		
	Total	23.572	61			

Table 6 further shows absence of multicollinearity among the variables where Variance Inflation Factor (VIF) is 1.000. The regression model was therefore valid since no multicollinearity was detected. Since all the factors of the market innovation have identical (Likert) scales and due to the fact that the constant value is significant, the study preferred interpreting the B-coefficients rather than the beta coefficients. Consequently, the value of regression weights shown in Table 6 indicate that market innovation will always exist in the cement manufacturing firms at a certain significant minimum ( $\beta_0 = 2.895$ ,  $P < .001$ ).

**Table 6: Market Innovations and Firm's performance: Regression Weights**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.895	.340	8.511	.000		
	market innovation	.338	.092	.429	3.676	.001	1.000

a. Dependent Variable performance of cement manufacturing firms

The null hypothesis ( $H_0$ ) predicted no positive and significant effects of market innovation on the performance of cement manufacturing firms. The findings from univariate correlation in Table 6 ( $r = .429^{**}$ ,  $P = .001$ ) and from univariate regression weights in Table 6 ( $\beta_1 = .338$ ,  $P = .001$ ) indicates that there is a positive and significant effect of process innovation on performance of the cement manufacturing firms in Kenya. Therefore, the null hypothesis ( $H_0$ ) is rejected and conclusion made that there is a positive and significant effect of process innovation on performance of the cement manufacturing firms in Kenya.

This finding mirror that of Hollanders and Evangelista (2013) who observed that market innovation enhances competitiveness, which translates into increased profits. However, Maktoba, Tao, Raeside and Lewrick (2014) study failed to ascertain the effect of marketing innovation on performance since it focused on innovativeness promotion.

The implication of this finding is that any cement manufacturing firm that adopts market innovation will always experience a significant improvement in its performance. This result indicates the great need for cement manufacturing companies in Kenya to strengthen its

market innovations. This result further indicates the great need for cement manufacturing companies in Kenya to improve their budget allocation to enhance the marketing programs.

## 5.0 Conclusions

The study concluded that market innovation has a positive and significant effect on the performance of the cement manufacturing firms in Kenya. In particular, the findings provided four most essential aspects of market innovation that are significant in driving the performance of the cement manufacturing firms in Kenya. These are: meeting customer's needs, product design, and competitive strength. The results further point out the need for cement manufacturing firms to adopt new programs and processes in order to reduce the cost of production.

## 6.0 Recommendations

Market innovation was empirically proved to have significant impacts on performance the cement manufacturing firms in Kenya. This point out the need for the cement manufacturing firms in Kenya to innovate their marketing programs in order to sustain high performance. Such programs should focus on better ways of meeting customer's needs; enhancing product design, and embarking strategies of strengthening their competitiveness.

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