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Application of Porter's Five Forces Model on the Performance of Cement Industry in Kenya

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Abstract: **The basis for formulating competitive strategies is to comprehend the forces that shape competition in a particular industry. The most widely used structure to understand the competitive forces is based on Porter's Five-Force model. The model provides an assessment of the elements within the contending forces that shape competition in the industry and determine firm strategy. The aim of this study was to apply the Porter's Five Forces Model to analyze the performance of Kenya's cement industry. The specific objectives were to evaluate the influence on performance by the following determinants; bargaining power of suppliers, bargaining power of buyers, threat of new entrants, threat of substitutes and rivalry amongst competitors. A descriptive research design was adopted; data was collected with use of questionnaires with the respondents being the managers of the sampled cement firms listed at Nairobi Stock Exchange. The data obtained was analyzed using descriptive statistical analyses. The major findings of the study were that Porter's (1980) five forces shaped competition in the cement industry to different degrees and affected the attractiveness and performance of the Kenyan cement industry. The implication of this study will go a long way to guide the cement industry in formulating competitive strategic objectives for the purpose of enhancing future performance and competitiveness in the industry.**

1. INTRODUCTION

1.1. Background of the Study:

The structure of the world cement industry has become more globalized with a small number of multinational companies dominating the world cement manufacturing industry. Cement has been a core building material for almost a century. Any country endowed with adequate deposits of the basic raw material cement grade limestone can produce cement. Cement industry plays a vital role in the economic development of a country. Cement demand is mainly driven by housing, roads and other infrastructural construction.

The cement industry has some distinctive characteristics. It is capital intensive and energy intensive (Faisal et al., 2009). International Cement Review (2011) magazine reveals that there are 149 cement producing nations in the world, with M/s Holcium and M/s Lafarge being the leading cement companies in the world in terms of capacity and sales.

United States Geological survey (2014) indicates that in the year 2013, global cement production was 4.0 billion tonnes of cement with China being the world's largest cement producer, having produced 2.3 billion tons in the year 2013, accounting for 58% of the world's production. In Africa, Egypt leads with an annual cement production of 46 million tons, accounting for 1.2% of the world's production in the year 2013. According to Standard Investment Bank (2013) report, the East African countries; Kenya, Uganda and Tanzania combined produced 9.6 million tons of cement in the year 2013 accounting for 0.24% of the world's production. Kenya produced 5.2 million tons of cement same period of time, accounting for 54% of the total cement production in East Africa.

The performance of the world cement industry experienced a period of rapid growth during the past decade, in terms of supply and demand. However in recent times, the global economy was significantly disrupted by the Islamic and Arab political turbulences, the all-time high US fiscal debt and the Euro zone debt crisis. This turmoil significantly contributed to the decline in consumer wealth and economic activity worldwide hence creating variance in the cement industry performance.

Much of the growth in developing countries is attributable to intensive spending in the field of social development and construction activities. In East Africa, the key demand drivers for cement are private investments and government spending driven by the desire to narrow the housing deficit and infrastructure situation. For instance, the new nation of Southern Sudan provides enormous opportunity for increasing cement demand in the country's reconstruction. Other inland export deficit markets include Uganda, Rwanda, Burundi and east of the Democratic Republic of Congo that are also on the reconstruction path and will support cement consumption going forward.

According to RoK (2007), the Kenya Vision 2030 framework envisages massive infrastructural development involving a wide range of sectors including ports, railways, special industrial zones, general housing for human settlement and undertaking road construction and rehabilitation estimated at Kes 20 billion per annum over a ten year period (2005-2015). The National Housing policy envisages 150,000 units per year to bridge the housing shortfall. The cement demand is further fueled by the Constituency Development Fund (CDF) projects and the growing real estate industry. Kenya thus continues to record significant growth in infrastructure-led consumption. These trends will definitely call for increased cement production.

The Kenyan cement sector consists of six operating cement manufacturing firms namely; Athi River Mining (ARM), Mombasa Cement, Savanna cement, National Cement, Bamburi Cement Ltd and the East African Portland Cement company (EAPCC). All save for EAPCC are privately owned, while only three of them namely; EAPCC, ARM and Bamburi cement firms are publicly listed at the Nairobi Stock Exchange (RoK, 2012).

1.2. Statement of the Problem

RoK (2012), 4 year financial records for Kenya's cement firms listed in NSE, reveals that for Bamburi Cement, profit before taxation, dropped from Kshs 8.0 billion in 2009 to Kshs 5.5 billion in 2012; EAPCC's dropped from Kshs 1.9 billion to a loss of Kshs 1.0 billion and Athi River Mining increased from Kshs 949 million to Kshs 1.8 billion in the same period of time. Dyer & Blair (2012) noted that Bamburi Cement and EAPCC's market share dropped from 56 and 40 percent in 2009 to 40 and 24 percent in 2012 respectively. Athi River Mining's market share increased from 8 percent in 2009 to 18 percent in 2012. Juma (2013) reveals price of 50kg bag of cement in Nairobi, in 2013 was Kshs 650, from a peak of Kshs740 in 2009.

KIPPRA (2013) in their Kenya economic report cited Kenya National Bureau of Statistics as having indicated that the construction sector contributed about 4.1 percent of GDP in the year 2012. The manufacturing sector's contribution to total wage employment had gradually worsened from 13.9 percent in 2008 to 12.9 percent in 2012. While the declining trend largely reflects stagnation of the sector's growth, this could also be due to the possibility of firms becoming more capital intensive, or a shift to use of casual labour to minimize labour costs.

Osmond (2014) asserts that companies facing reduced market share, reduced product pricing, and decline in profitability, resulting from business operations are forced to reduce operational output. This trend is likely to have negative effect on the sector that may lead to poor business performance, job losses and other negative effects on both the society and sectors of economy.

Lynch (2003) states "An industry analysis usually begins with an examination of the forces influencing the organization". Elisante (2006), points that Porter's Five Forces Framework is one of the strategic models used to assess the attractiveness of the industry. Porter (2008) observes that understanding the competitive forces, and their underlying causes, reveals the roots of an industry's current profitability while providing a framework for anticipating and influencing competition and profitability over time. McKinney (2008) argues that the porter's analysis is useful for determining whether to enter an industry or specific market. Ogollah et al. (2012) stated that "the basis for crafting competitive strategies is to understand the forces that shape competition in a particular industry. The most widely used framework to understand the competitive forces is based on Porter's Five-Force model. The model provides an assessment of the determinants within the contending forces that shape competition in the industry and determine firm strategy".

DiMaio Management Consulting (2011), citing Fleisher and Bensoussan (2003), avers that the purpose of the Five Forces model is to analyze the major economic and technological forces that ultimately influence an industry's profit potential. Identifying the profit potential (i.e., attractiveness) of an industry provides the foundation for bridging the strategic gap between a company's external environment and its resources. Porter classifies the five forces or "rules of competition" as follows: Threat of new entrants, bargaining power of suppliers, bargaining power of buyers, Threat of substitute products or services and Rivalry among existing competitors.

Mistikoglu and Oral (2005) used porter model to analyze the brick industry in Turkey. Their results showed that competition between the existing companies in Turkish brick industry was fierce with similar-sized companies and there was low entry and exit barriers, increasing threat from the substitute products, and increasing bargaining power of buyers. This study seeks to apply the porters five forces model in the analysis of the performance of Kenya's cement industry.

1.3. Objectives of the Study

1.3.1. General Objective

To apply Porter's five forces model to analyze the performance of Kenya's cement industry..

1.3.2 Specific Objectives

The research will be guided by the following specific objectives:

a. To evaluate the influence of bargaining power of suppliers on performance.

b. To analyze the influence of bargaining power of buyers on performance.

c. To assess the influence of threat of new entrants on performance.

d. To determine the influence of threat of substitutes on performance.

e. To establish the influence of rivalry amongst competitors on performance.

1.4. Research Questions

This study will attempt to answer the following questions:

a. How does bargaining power of suppliers influence performance?

b. How does bargaining power of buyers influence performance?

c. How does threat of new entrants influence performance?

d. How does threat of substitute influence performance?

e. How does rivalry amongst competitors influence performance?

2. LITERATURE REVIEW

2.1. Theoretical Review:

2.1.1. The Independent Variable: Bargaining Power Of Suppliers:

Mistikoglu & Oral (2005) illustrate that "according to Porter's five forces model, suppliers have control over the competition in the industry through their bargaining power".

According to Lynch (2000), Porter suggested that suppliers are more powerful under the following conditions; if there are only few suppliers, this means that it is difficult to switch from one to another if a supplier starts to exert its power. If there are no substitutes for the supplies they offer, this is especially the case if the suppliers are important for technical reasons, perhaps they from a crucial ingredient in a production process or the service they offer is vital to smooth production. If supplier's prices form a large part of the total cost of the organization, as any increase in price would hit value added unless the organization was able to raise its own prices in compensation. If a supplier potentially undertakes value-added process of the organization by forward integration; this could pose a real threat to the survival of the organization.

DiMaio Management Consulting (2011), states that, the bargaining power of suppliers has the ability to influence cost, availability, and quality of input materials to firms in the industry.

2.1.2. The Independent Variable: Bargaining Power Of Buyers:

Wheelen & Hunger (2008) argued that "buyers affect an industry through their ability to force down prices, bargain for higher quality or more services, and play competitors against each other". According to Johnson & Scholes (2002), bargaining power of buyers is likely to be high when some of the following conditions prevail: if there is concentration of buyers, particularly if the volume purchase of the buyers is high; If the supplying industry comprises a large number of small

operators; if there are alternative sources of supply, perhaps because the product required is undifferentiated between suppliers or, as for many public sector operations, when the deregulation of markets spawns new competitors; if the component or material cost is a high percentage of total cost, since buyers will be likely to 'shop around' to get the best price and therefore 'squeeze' suppliers; if the cost of switching a supplier is low or involves little risk and if there is a threat of backward integration by the buyer (e.g. by acquiring a supplier) if satisfactory prices or quality from suppliers cannot be obtained.

2.1.3. The Independent Variable: Threat Of New Entrants:

Mistikoglu & Oral (2005) argue that one of the determinants which define characteristics of competitive advantage is the industry's barrier to entry; every company therefore should be able to enter or exit a market if it is a free market. However, every industry has its special characteristics and conditions that may restrain new competitors to enter markets.

According to Mintzberg (2003), some of the possible barriers to entry are: Economies of scale where these economies deter entry by forcing the aspirant either to come in on a large scale or to accept a cost disadvantage. Economies of scale can also act as hurdles in distribution, utilization of the sales force, financing, and nearly any other part of a business. Product differentiation such as brand identification creates a barrier by forcing entrants to spend heavily to overcome customer loyalty. Capital requirements leads to the need to invest large financial resource in order to compete creates a barrier to entry, particularly if the capital is required for unrecoverable expenditures in up-front advertising or R&D. Capital is necessary not only for fixed facilities but also for customer credit, inventories, and absorbing start-up losses. Entrenched companies may have cost advantages not available to potential rivals, no matter what their size and attainable economies of scale. These advantages can stem from the effects of the learning curve, proprietary technology, access to the best raw materials sources, assets purchased at pre-inflation prices, government subsides, or favorable locations. Challenge of access to distribution channels where the limited wholesale or retail channels have these tied up, hence the tougher that entry into the industry will be. The government policy can limit or even foreclose industries with such controls as license requirements and limits on access to raw materials. The government also can play a major indirect role by affecting entry barriers through controls such as air and water pollution standards and safety regulations.

2.1.4. The Independent Variable: Threat Of Substitutes:

DiMaio Management Consulting (2011) avers that the risk of market displacement by existing or potential substitutes is determined by; Relative price or Performance trade-off, that is if an existing or potential competitive products or services offer a more favorable combination of product attributes or low cost, the threat of substitutes is high. Threat of substitution varies inversely with switching costs, while a highly profitable provider of a credible substitute product or service poses a high threat of substitution.

2.1.5. The Independent Variable: Rivalry Amongst Competitors:

Thompson & Strickland (1996) argued that "the strongest of the five competitive forces is usually the jockeying for position and buyer favour that goes on among rival firms. Rivalry emerges because one or more competitors see an opportunity to better meet customer needs or is under pressure to improve its performance".

According to Wheelen & Hunger (2008), intense rivalry is related to the presence of several factors, including: Number of Competitors where when competitors are few and roughly equal in size, they watch each other carefully to make sure that they match any move by another firm with an equal countermove. Product or service characteristics where a product can be very unique, with many qualities differentiating it from others of its kind, or it may be a commodity, a product whose characteristics are the same, regardless of who sells it. Height of Exit barriers may keep a company from leaving an industry. Diversity of Rivals that have very different ideas of how to compete are likely to cross paths often and unknowingly challenge each other's position. Others factors include amount of fixed costs, capacity and rate of industry growth.

2.2. Empirical Review:

Mohammad (2011) cites Ormanidhi and Stringa (2008) to have researched on the approaches of Structure, Conduct, Performance, the New Industrial Organization, Game Theory, the Resource-Based Perspective, and Market Process Economic in terms of their relations, similarities, and differences relative to Porter's model. The research depended on the comparative discussion to support the use of Porter's model to evaluate firm's competitive behavior and what strategy they chose. The research concluded that Porter's model was considered as an insightful and convenient approach to analyzing the

firm's competitive behavior for a number of reasons. These reasons were; its popularity, well-defined structure, feasibility, clarity, simplicity and generality.

Elisante (2006) in his study on the "Application of Porter's five forces framework in the banking industry of Tanzania" concluded that, bargaining power of suppliers force was favorable to the bank industry. The rivalry among the existing bank, threat of new entrants, and bargaining power of customer is found to be unfavorable forces to the industry. He therefore urged from his analysis that on average the bank industry was not attractive.

Mohammad (2011) further cites Zhao, M. (2005) study on the "Five Competitive Forces in China's Automobile Industry". This research was an applied study on the China's automobile industry; the aim was to define the conditions of competition for Multi National Enterprise (MNE) in China through the industrial competitive framework of Porter's five forces model, and to demonstrate how it influenced the MNE strategy and competitive position. The research found that (1) the industry rivalry level had the most important obstacles of high tariff and non-tariff barriers, foreign investment limits, and local content requirement. (2) the monopolistic position of Volkswagen in China was seriously threatened by new entrants and developments of other foreign and national carmakers, due to the explosion of vehicle demand in China since 2001, (3) the bargaining power of customers was high, because the rapid growth of China had triggered a growth in purchasing power, and (4) the presence of capable specialized suppliers and related industries constituted the important condition for MNEs in China's vehicle industry.

Siaw & Yu (2004), in their applied study on the internet banking industry by using Porter's Fiver Forces Model, the study aimed at examining how the emergence of the internet was likely to affect the competitive landscape of the banking industry by analyzing ways in which the internet impacts on the competitive dynamics of the banking industry. The research established that (1) on the threat of entry, the internet fundamentally lowered barriers to entry that allow more new competitors to enter banking industry; it gave people from other industry segments opportunities to succeed in business where they had little or no presence before, (2) on bargaining power of buyers, it increased indirectly way; as more new comers were expected to enter the industry, banking customers were facing more alternatives that increased their bargaining power, (3) on bargaining power of suppliers, there were only few gateways (suppliers) such as Time Warner and Microsoft; therefore, the bargaining power of suppliers was strong, and (4) on rivalry, the internet enabled small banks to compete on equal ground with the large-scale multinational financial giants, because the traditional high-cost, brick-and-mortar branch is not mandatory, also the internet's universal standard eliminates costs involved in customers changing to a new provider.

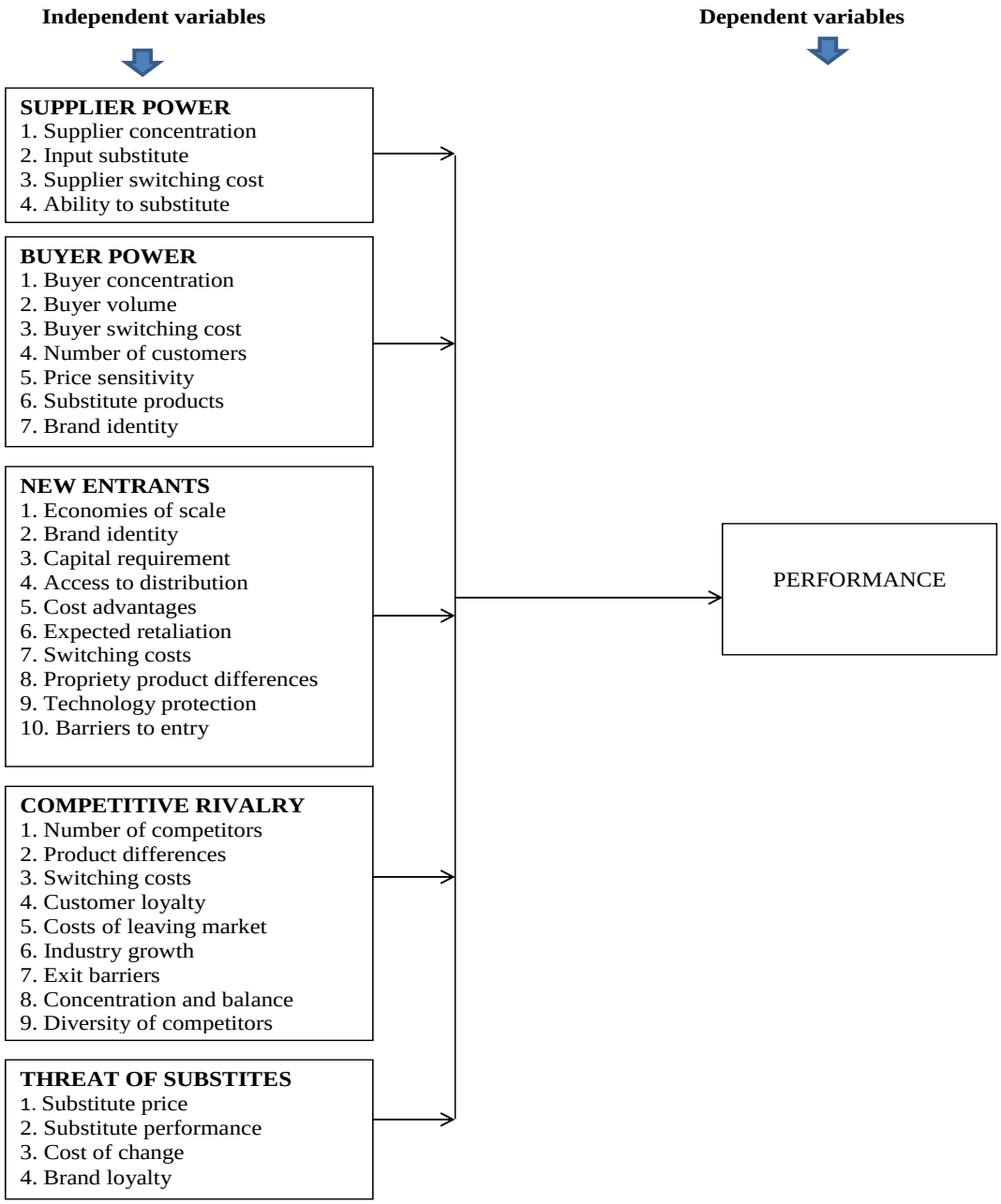
Teo (2002) in his research on the market entry strategies and policies of the wireless industry in United States of America (USA) of five startups, new ventures or companies, by using Porter‘s Five Forces theory and the Resource-Based View (RBV), the research concluded that (1) the startups are successful at overcoming barriers of entry in their respective markets. (2) the startups didn't actively undertake any action to overcome the intensity of rivalry because their entry strategies are more defensive than offensive; they seek to protect their markets, rather than attack their competitors, and finally (3) the bargaining powers of customers and suppliers were not manipulated to the startups' advantages; all the startups sold to customers with higher bargaining powers than they did.

Hacklin (2001) examined whether Smartner's Information systems limited current knowledge, products, and development would be applicable under third generation technology (3G) by using Porter's five forces model. The research concluded that (1) the threat of new entrants explained that software giants, such as Microsoft, were expanding their business into mobile middleware solutions and wireless terminal applications, and were competing on quality, price, as well as compatibility with existing products, (2) the bargaining power of customers was high because as compared to a huge operator, Smarnter's possibilities to affect the end users were small, so the end user decided upon mobile services, and thus Smartner's success, (3) there were only a few rivals competing in the same segment as Smartner, and (4) the bargaining power of suppliers explained that Smartner was not really dependent upon suppliers and subcontractors.

2.3. Conceptual Framework:

Mugenda (2008) defined conceptual framework as a concise description of the phenomenon under study accompanied by a graphical or visual depiction of the major variables of the study.

This study sought to apply the Porter’s five forces model on the performance of the cement industry in Kenya. The dependent variable in this study was performance, while independent variables included; bargaining power of suppliers, bargaining power of buyers, threat of new entrants, rivalry amongst competitors and the threat of substitutes.



3. RESEARCH METHODOLOGY

3.1. Research Design:

This research used the postpositivism research paradigm. Descriptive research design was used in this study. According to Kothari (2004), descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. The methods of research utilized in descriptive research are survey methods of all kinds, including comparative and correlational methods.

3.2. Sample And Sampling Procedure:

Stratified random sampling of the total population was used in selecting the respondents.

Three cement firms namely; ARM, EAPCC and Bamburi cement comprised the target population. The choice of population was based on the fact that these firms are listed at the Nairobi Stock Exchange (NSE) and whose performance data is available at the public domain. A sample size of 15 managers was selected from the target population which comprised of 5 managers representing each of the cement firm as shown below.

Research sample

Department	ARM	EAPCC	Bamburi	Total
Human Resource	1	1	1	3
Finance	1	1	1	3
Production	1	1	1	3
Sales and Marketing	1	1	1	3
ICT	1	1	1	3
Total	**5**	**5**	**5**	**15**

A census approach was used because it affords more extensive and detailed study, and therefore it provided more accurate and exact information as compared to the sample enumeration. The managers were regarded as a suitable unit of analysis since they are the formulators and implementers of the firm's competitive strategy and are therefore better placed to give an authoritative opinion on the determinants of Porter's five forces model.

3.3. Research Instruments:

Primary data was collected using self-administered questionnaires as the data collection instrument (Appendix 1). The questionnaire was designed to solicit data on competitive forces that shape competition in the cement industry in order to assess the applicability of the Porter's Five Forces Model in the industry. Respondents were presented with descriptive statements in a 5-point Likert scale on which they were required to rate by scoring the extent to which they perceived a particular statement is descriptive of the force in the industry.

Once the questionnaires were received they were coded and edited for completeness and consistency. The data obtained was cleared and coded then SPSS was used for data analysis using descriptive statistics.

4. RESULTS AND DISCUSSION

4.1. Background Information:

4.1.1. Response Rate

The researcher distributed 5 questionnaires each in ARM, EAPCC and Bamburi cement firms, out of which 15 were completed and retrieved successfully, representing 100% response rate.

4.1.2. Gender of Respondents

Table 1 shows that 66.7% of the respondents were male and 33.3% were female. This implies males occupy most managerial positions in the cement industry.

Table 1: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	10	66.7	66.7	66.7
	Female	5	33.3	33.3	100.0
	Total	15	100.0	100.0	

4.1.3. Age of Respondents

Table 2 shows that 60.0% of the respondents were in the age category of 31-40 years, which implies the respondents, are relatively young and energetic.

Table 2: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30 yrs	2	13.3	13.3	13.3
	31-40 yrs	9	60.0	60.0	73.3
	41-50 yrs	4	26.7	26.7	100.0
	Total	15	100.0	100.0	

4.1.4. Level of Education

Table 3 indicates the response on level of education whereby 86.7% of the managers are diploma and bachelor degree holders. This shows that majority of the managers are relatively well educated.

Table 3: Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	7	46.7	46.7	46.7
	Bachelor	6	40.0	40.0	86.7
	Master	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

4.1.5. Number of years of service

Table 4 shows the respondent's number of years of service in the cement industry. 66.6% of the managers have worked for between 6 and 20 years which signify high level of experience and appreciation of the industry matters.

Table 4: Number of years of service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 years	4	26.7	26.7	26.7
	6-10 years	5	33.3	33.3	60.0
	10-20 years	5	33.3	33.3	93.3
	20-30 years	1	6.7	6.7	100.0
	Total	15	100.0	100.0	

4.2. Threat of Substitute:

DiMaio Management Consulting (2011) averred that the risk of market displacement by existing or potential substitutes was determined by; (1) relative product price, (2) switching costs and (3) a highly profitable provider offering a credible substitute product or service.

Table 5 below shows that most respondents disagreed to the notion that it was costly for their customers to switch to other competitor cement products; meaning that the threat of substitute cement products was high in the industry. Similarly, majority of the respondents tend to agree, meaning they were uncertain that their cement product's attributes compared favourably to possible substitutes in the market and that their customers were loyal to their existing cement products. This further aggravates possibility of high threat of substitutes.

Table 5: Statistics

		Your cement product's attributes compare favourably to possible substitutes in the market	It is costly for your customers to switch to other competitor cement product	Your customers are loyal to your existing cement products
N	Valid	15	15	15
	Missing	0	0	0
Mean		3.80	2.4667	3.6667
Std. Deviation		1.373	1.06010	.97590

4.3. Bargaining Power of Suppliers:

Lynch (2000), informs that Michael Porter suggested that suppliers are more powerful under the following conditions; (1) if there are only a few suppliers. (2) If there are no substitutes for the supplies they offer, (3) if supplier's prices form a large part of the total cost of the organization and (4) if a supplier potentially undertakes value-added process of the organization by forward integration.

Table 6: Statistics

		There are a large number of potential cement raw materials suppliers	The cement raw materials needed for the business are unique	Raw materials Purchases from suppliers represent a large portion of the business cost	It Would be difficult for the suppliers to enter your business, sell directly to your customers, and become your direct competitor	You can easily switch to substitute raw materials from other suppliers	You are well informed about your supplier's materials and market
N	Valid	15	15	15	15	15	15
	Missing	0	0	0	0	0	0
Mean		4.2667	3.0000	4.6000	3.2000	3.0667	3.7333
Std. Deviation		1.16292	1.41421	.63246	1.37321	1.16292	1.09978

Table 6 above shows that most respondents agreed that there are a large number of potential cement raw materials suppliers, this means that it was not difficult to switch from one supplier to another if a supplier started to exert their power; implying that the bargaining power of the suppliers was relatively lower. However, the respondents concurred that raw materials purchases from these suppliers represented a large portion of their business cost.

Majority of the respondents 'tend to agree' hence were uncertain on the fact that raw materials needed for their business were unique; secondly on the possibility of their suppliers entering their business and compete with their customers; thirdly, that they can easily switch to substitute raw materials from other suppliers and that they are well informed about their supplier's materials and market. In this instance, the bargaining power of the suppliers wasn't clearly manifested by the responses.

4.4. Bargaining Power of Buyers:

Johnson & Scholes (2002) stated that bargaining power of buyers was likely to be high when the following conditions prevail; (1) if there is concentration of buyers, particularly if the volume purchase of the buyers is high; (2) If the supplying industry comprises a large number of small operators providing alternative sources of supply; (3) if the component or material cost was a high percentage of total cost, since buyers will be likely to 'shop around' to get the best price and therefore 'squeeze' suppliers; (4) if the cost of switching a supplier is low or involves little risk and finally (5) if there is a threat of backward integration by the buyer.

Table 7 below shows that most respondents 'tend to agree' hence uncertain that their cement product was differentiated and that it represented a small expense for their customers, hence the bargaining power of the buyers was unclear with regards to the two aspects.

However the respondents disagreed that they had enough customers such that losing one wasn't critical to their success; secondly, that their customers were uninformed about their cement products and market and thirdly, on the notion that it would be difficult for their customers to switch from their cement product to their competitors. All these demonstrated high level of buyers' bargaining power and competition in the cement industry.
The study further revealed the difficulty for their buyers to integrate backwards in the supply chain and provide similar products. This aspect lowers the buyer's bargaining power.

Table 7: Statistics

		You have enough customers such that losing one isn't critical to your success	Your cement product represent a small expense for your customers	Customers are uninformed about your cement products and market	Your cement product is differentiated (unique)	It would be difficult for buyers to integrate backward in the supply chain, purchase a competitor providing the cement products you provide, and compete directly with you	It is difficult for customers to switch from your cement product to your competitors' products
N	Valid	15	15	15	15	15	15
	Missing	0	0	0	0	0	0
Mean		2.0667	3.0667	2.5333	3.6667	2.6667	2.2000
Std. Deviation		1.27988	1.03280	1.06010	1.39728	1.17514	.67612

4.5. Threat of New Entrants:

According to Mintzberg (2003), some of the possible barriers to entry include; (1) economies of scale, (2) product differentiation, (3) customer loyalty, (4) capital requirements, (5) cost advantages of entrenched companies, (6) challenge of access to distribution channels and (7) government policy.

Table 8: Statistics

		Customers are loyal to your cement brand	There are high start-up costs for your cement business	The assets needed to run your business are unique	There is a process or procedure critical to establish a cement business	New competitors have difficulty acquiring/obtaining customers	You need a license to open a new cement plant	A new competitor have difficulty acquiring/obtaining needed raw materials inputs to compete efficiently	There are challenges of access to cement distribution channels by new entrants	The government policies are restrictive with harsh controls and regulations for new cement plant setups	In recent years, has there been new entrants in the cement manufacturing sector
N	Valid	15	15	15	15	15	15	15	15	15	15
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		3.4667	4.5333	3.9333	4.0667	2.6000	4.6000	2.3333	2.8000	2.7333	4.8667
Std. Deviation		.91548	.63994	1.09978	1.16292	.98561	.63246	1.04654	.86189	1.33452	.35187

Table 8 above shows that most respondents agreed that there was a high setup cost for the Cement business; and that there was a process or procedure critical to establish a cement business. All these were inhibitive factors likely to limit entry of new entrants in the cement industry; although the study confirms in the recent years, there has been in surge of new entrants in the cement sector albeit few.

The respondents tend to agree hence uncertain that their customers were loyal to their cement brands and that the assets needed to run the cement business were unique. This scenario provides elements of attractiveness for possible new entrants.

However the respondents disagreed that new competitors had difficulties in acquiring customers, raw materials and access to the cement distribution channels. They also disagreed that the government policies were restrictive with harsh controls and regulations for new cement plant setups. All these aspects favoured entry of new players in the market.

4.6. Rivalry amongst Competitors:

Wheelen & Hunger (2008) indicated that, intense rivalry is related to the presence of several factors, including; (1) number of competitors, (2) product or service characteristics, (3) exit barriers and (4) diversity of rivals. Other factors include the amount of fixed costs, capacity and rate of industry growth.

Table 9: Statistics

		There is a small number of competitors	There a clear leader in your market	The cement market is growing fast	You have a low fixed costs	You store your product to sell at the best times	Your cement product is unique	It is easy for your competitors to abandon their product
N	Valid	15	15	15	15	15	15	15
	Missing	0	0	0	0	0	0	0
Mean		3.2000	4.4000	4.4667	1.8667	1.7333	3.2000	1.6000
Std. Deviation		1.47358	.50709	.63994	.83381	.79881	1.32017	.82808

Table 9 above shows that most respondents agreed that there was a clear leader in their cement market and that the market was growing fast. They were uncertain that their product was unique, and strongly disagreed that their business had low fixed cost; secondly, that they were able to store their product and sell at the best times and thirdly that it was easy for their competitors to abandon their products. All these would signify intense competitor rivalry as the firms jostle for position and market.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The study sought to apply Porter's five force model in the performance of cement industry in Kenya. Based on the findings, the study concludes that the threat of substitutes was high; bargaining power of the suppliers relatively lower; buyers'

bargaining power was both high and low based on factors studied; threat of new entrants high and competitor rivalry intense. All these factors have a direct impact on the performance of the individual firms in the cement industry. The paper showed that all the Porter's five forces shape competition in the cement industry to different degrees and affects the attractiveness of the industry. The overall conclusion that could be drawn from the findings of this study is that the porter's five competitive forces are still relevant in shaping competition in an industry setup, more specifically in the Kenyan cement industry.

5.2. Recommendation

There is need for these forces to be inculcated in the policy framework especially on the rules and regulations that governs the cement industry operations and performance within this vibrant sector of the Kenyan economy. This will go a long way to guide the cement industry in formulating competitive strategic objectives for the purpose of enhancing future performance and competitiveness in the industry.

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APPENDIX 1 – QUESTIONNAIRE

This questionnaire is for the purposes of data collection purely for academic purposes. The study seeks to apply the Porter's five forces model in the analysis of the performance of cement industry in Kenya. All information received will be treated with strict confidence. Kindly ensure that you do not include your name or any identification marks on this questionnaire.

SECTION A - PERSONAL DATA

1. Gender?

a. Male [ ] b. Female [ ]

2. Age?

a.21 – 30 [ ] b. 31 – 40 [ ] c. 41 – 50 [ ] d. 51 - 60 [ ]

3. Level of education?

a. Certificate [ ] b. Diploma [ ] c. Bachelor's degree [ ] e. Master's degree [ ] d. Phd [ ]

4. Department?

a. HR [ ] b. Finance [ ] c. Production [ ] d. ICT [ ] e. Sales & Marketing [ ]

5. Number of years of service at the present organization?

a. less than 1year [ ] b. 1-5 [ ] c. 6-10 [ ] d. 10-20 [ ] e. 20-30[ ]

SECTION B – THREAT OF SUBSTITUTES

For each of the following statements please indicate by ticking whether you **strongly agree (5), agree (4), tend to agree (3), disagree (2) or strongly disagree (1**) to a question.

QUESTION	Strongly Agree	Agree	Tend to Agree	Disagree	Strongly Disagree
1. Your cement product's attributes compare favourably to possible substitutes in the market					
2. It is costly for your customers to switch to other competitor cement product					
3. Your customers are loyal to your existing cement products					

SECTION C – BARGAINING POWER OF SUPPLIERS

For each of the following statements please indicate by ticking whether you **strongly agree (5), agree (4), tend to agree (3), disagree (2) or strongly disagree (1**) to a question.

QUESTION	Strongly Agree	Agree	Tend to Agree	Disagree	Strongly Disagree
1. There are a large number of potential cement raw materials suppliers					
2. The cement raw materials needed for the business are unique					
3. Raw materials Purchases from suppliers represent a large portion of the business cost					
4. It Would be difficult for the suppliers to enter your business, sell directly to your customers, and become your direct competitor					
5. You can easily switch to substitute raw materials from other suppliers					
6. You are well informed about your supplier's materials and market					

SECTION D – BARGAINING POWER OF BUYERS

For each of the following statements please indicate by ticking whether you **strongly agree (5), agree (4), tend to agree (3), disagree (2) or strongly disagree (1**) to a question.

QUESTION	Strongly Agree	Agree	Tend to Agree	Disagree	Strongly Disagree
1. You have enough customers such that losing one isn't critical to your success					
2. Your cement product represent a small expense for your customers					
3. Customers are uninformed about your cement products and market					
4. Your cement product is differentiated (unique)					
5. It would be difficult for buyers to integrate backward in the supply chain, purchase a competitor providing the cement products you provide, and compete directly with you					
6. It is difficult for customers to switch from your cement product to your competitors' products					

SECTION E – THREAT OF NEW ENTRANTS

For each of the following statements please indicate by ticking whether you **strongly agree (5), agree (4), tend to agree (3), disagree (2) or strongly disagree (1**) to a question.

QUESTION	Strongly Agree	Agree	Tend to Agree	Disagree	Strongly Disagree
1. Customers are loyal to your cement brand					
2. There are high start-up costs for your cement business					
3. The assets needed to run your business are unique					
4. There is a process or procedure critical to establish a cement business					
5. New competitors have difficulty acquiring/obtaining customers					
6. You need a license to open a new cement plant					
7. A new competitor have difficulty acquiring/obtaining needed raw materials inputs to compete efficiently					
8. There are challenges of access to cement distribution channels by new entrants					
9. The government policies are restrictive with harsh controls and regulations for new cement plant setups					
10. In recent years, has there been new entrants in the cement manufacturing sector					

SECTION F – RIVALRY AMONGST COMPETITORS

For each of the following statements please indicate by ticking whether you **strongly agree (5), agree (4), tend to agree (3), disagree (2) or strongly disagree (1**) to a question.

QUESTION	Strongly Agree	Agree	Tend to Agree	Disagree	Strongly Disagree
1. There is a small number of competitors					
2. There a clear leader in your market					
3. The cement market is growing fast					
4. You have a low fixed costs					
5. You store your product to sell at the best times					
6. Your cement product is unique					
7. It is easy for your competitors to abandon their product					