

Enviropreneurial Marketing Strategies on Sustainability of Cement Industry in Kenya

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ABSTRACT

Cement manufacturing, distribution and use are associated with numerous environmental concerns that have a bearing to the business continuity and sustainability. Over time, the aspect of environmental conservation and management has become a critical business factor in the eyes of stakeholders and customers alike and thus influencing the performance of cement firms in Kenya. This study sought to establish the role of enviropreneurial marketing strategy to cement business performance in Kenya. The study adopted a pragmatism approach philosophy, acknowledging the real problems related to the industry practice and seeking to contribute practical solutions for future practice. Considering that only eight cement firms operate in Kenya, the study adopted the entire eight number firms as the sample size and sample population. Qualitative descriptive research design guided this research which purely relied on secondary data sources from previous research, published journals, information on companies' website and published newsfeeds. The results revealed numerous efforts into enviropreneurial marketing strategies at varying degree from firm to firm. Further the results established a relationship between implementation of EM strategies to business performance, with Bamburi cement leading in EM efforts linked to its better performance in the market. Although the study acknowledged a number of challenges with EM strategies, there are revealed opportunities available for exploitation by cement firms in Kenya for improved performance. To achieve more realistic findings, the study recommends a future consideration of primary data sources for perceived reduction of biases imported from secondary data sources.

Keywords: Enviropreneurial marketing; Cement Industry; Environment; Performance; Sustainability

BACKGROUND OF THE STUDY

Environmental degradation by industrial activities such as cement manufacturing is associated with landscape degradation, biodiversity disruption and other environmental pollution activities that threaten human and animal life and health in both short and long term (Jaini & Hussin, 2019). Cement manufacturing plants are known for their heavy environmental undermining activities through the raw material extraction, freight and industrial processes that emit toxic substances to land, water and air (Panagoda *et al.*, 2023). Such activities impose significant environmental degradation at the expense of industrial business activities (Elehinafe *et al.*, 2022). Investment in the cement industry is capital intensive and only a few companies invest in state of the art facilities, particularly in the developing world. Moreover, the cement manufacturing process is energy intensive and modern plants are highly automated (Bhattacharya & Saha, 2015). Considering climate change concerns, the industry plays a central as a major contributor and energy consumer which accounts for up to 45% of the cost of production (Damtoft *et al.*, 2008).

Enviropreneurial marketing (EM) is a concept that promotes a synergistic balance between environmental aspects and entrepreneurial concepts by analyzing and incorporating ecological concerns in the business model through the marketing strategy objectives (Menon & Menon, 1997). The marketing concept is

premised on manufacturing and promotion of green product marketed on the platform of green processes, product, prices and presentation through packaging (Moravcikova et al., 2017). The idea appreciates the possible adverse environmental impacts of business operation processes especially industrial processes that largely harm the environment, creating a negative perception on the stakeholders and the society in general. The concept is a growing marketing technique that attracts many players especially those in the manufacturing business in the modern society. The concept of EM began in the 1980's under the term "green marketing", and has since undergone tremendous revolution, with an impact of a competitive by practicing business (Rathore, 2022).

The value of EM approach is coined in the idea of selling products and services for the benefit of the environment (Traymbak & Aggarwal, 2019). Thus, such products and services must be manufactured, distributed and used in an eco-friendly environment. According to Kumar *et al* (2012), the sustainability of EM strategy revolves around striking a balance between; environmental, social and economic aspects of the business. Further, a study by Mbote *et al* (2021), evaluated the relationship between sustainability indicators of; environment, social and economic aspects on financial performance. The study established a positive performance resulting from implementation of environmental practices and noted a risk of failure by firms ignoring the EM approach. The study also noted the significance of EM strategy on the survival of manufacturing firms. Although a lot of research has been conducted in the area of green or environmental marketing (Buysse & Verbeke, 2003; Obermiller et al., 2008; Fraj- Andrés, 2008; Rathore, 2022), a few studies exist that relate EM to sustainability.

Implementation of the technique, demands engagement of the marketing practitioners in the process and product design for attainment of marketability benefits propelling the organization to greater efficiency with good reputation in the market place (Fraj et al., 2011; Samad et al., 2020). The marketing strategy and concept qualifies as an important tool adoptable by firms in order to gain organizational legitimacy and improve business performance (Papadas, 2021). The necessity for adoption of EM also builds up from the market trends, with some growing pressure from a segment of consumers who consider rewarding firms that address environmental concerns in their business while punishing firms that ignore the environmental imperatives (Menon & Menon, 1997).

The motivation of this study is founded on acknowledgement of the value of EM strategy to a business that stimulated evaluation of applicable EM practices and guidelines in the cement industry. The focus of the study was to enhance business performance while contributing to the public good through environmental compliance. The study explored the EM approaches used by firms in Kenya and their impact on the success of green marketing actions, with the aim of drawing useful lessons from the literature and successful green firms. The study also covered the main thematic areas including: the status of cement industry in Kenya, environmental aspects associated with different stages of cement production, practiced and necessary mitigation measures to the environmental threats and the market impact of EM strategies.

Research Problem

The global environmental concerns associated with industrial activities in developed and developing economies continue to hold central to business management strategies, scope of investment, resultant performance and sustainability in the market. Rapid industrialization has interrupted the environment and continues to do so, making it deteriorate drastically and necessitating urgent restoration and protection to avoid the glaring repercussions.

Cement industry is associated with numerous environmental challenges through raw material sourcing, production process, distribution and use. Successful engagement in cement business demands incorporation of sustainable practices commensurate with the nature of business in the wake of environmental concerns associated with climate change and adverse health effects. Thus, the cement industry value chain must

consider green processes geared towards environmental and entrepreneurial sustainability incorporated in the marketing strategies for the success of the business. Notably, many businesses are engaged in the struggle of striking a balance between environmental compliance vis-a-vis reduced investment and operating costs for viability and profitability of their businesses. The need to evaluate the significance of enviropreneurial approach as a viable business strategy remains paramount in this era, with an eye on exposure impacts and business success.

Cement is considered a backbone construction material in the construction industry that plays a pivotal role in the development of a nation such as Kenya. Thus, the business venture remains viable amidst concerns for operation under environmental compliance. The growing demand for infrastructural facilities occasioned by the growing world population has raised the investment interest in the sector. Thus, a rapid growth characterized by stiff competition for the market has been witnessed in the recent years particularly in Kenya as a growing economy. Enviropreneurial/green marketing technique presents a unique strategy that is capable of offering a competitive advantage in the wake of global environmental concerns that threaten biodiversity, health and life. However, many industrial firms have exhibited reluctance, inflicting challenges to its effective adoption. Against this back drop, this study sought to respond to the current and future concerns of various stakeholders in the cement manufacturing and supply industry regarding the value of enviropreneurial considerations and its influence on investment and business sustainability. The study sought to bridge the knowledge gap in response to green marketing strategies while maintaining business profitability.

Research Objectives

The general objective of this study is to underscore the significance of EM strategies in the sustainability and success of cement business, with particular focus on the Kenyan market. Specifically, the study sought to evaluate the EM strategies and their impact on marketability of cement, while also identifying and evaluating opportunities and challenges around EM practices adopted by the cement industry in Kenya.

Significance of the Study

Incorporating environmental elements in the marketing strategies can arguably inject a competitive advantage for a firm, putting it ahead of competitors in the market place by increasing the market share and raising the volume of sales (Farida & Setiawan, 2022). Consequently, there is a growing consensus within the business communities that EM also known as “green marketing”, appears realistic and significant. According to Song-Turner and Polonsky, (2016), EM plays a central role in developing innovative product or services, adopting an innovative and pragmatic green marketing mix that differentiates and creates changes within industry and markets (Sitnikov *et al.*, 2015). The marketing strategy and concept qualifies as an arsenal of tools that firms may employ to gain organizational legitimacy.

The value of EM strategy to businesses performance cannot be underrated as environmental responsibility continues to take the centre stage as a measure of business effectiveness (Hussain, 2023). In recent development, this new strategy has seen customers shift their attention from “green” purchasing to “green” action with a campaign for change in corporate stance to sustainability as a long term focus (Majeed *et al.*, 2023). The changing trend has seen a change in action plans birthing increased enactment of legal requirements and public awareness campaigns that impact action by the investors in the manufacturing sector.

LITERATURE REVIEW

Enviropreneurial marketing in the cement industry considers all aspects that follow green practices to achieve environmental sustainability. This section concentrates on the theoretical foundation of the study

subject of EM practices, its benefits and challenges associated with its implementation efforts with a focus on the cement industry.

Theoretical Foundation of the Study

This study is backed by two main theories; stakeholder theory and social contract theory. The two theories seek to present the basis on which the study is premised.

Stakeholder Theory

Stakeholder theory presents a comprehensive understanding and defines the scope of firms' corporate responsibility to the society in which they do their business (Freeman & Dmytriiev, 2017). However, there is remote academic literature supporting the normative and instrumental arguments for stakeholder management linking the mechanisms through which corporate performance can be improved (Harrison *et al.*, 2015). Notably, the growing adoption of stakeholder language by practitioners, a coherent stakeholder is potentially useful in bridging this gap. Stakeholder theory was developed from a perspective of organization management research under four core areas summarized *as*: strategic organizational planning, systems theory, corporate social responsibility and organizational theory (Strand & Freeman, 2015). The theory underscores stakeholder engagement and impacts on organization's management philosophy by identifying and governing the interests of different stakeholders. According to Freeman (1984), a stakeholder is any group or individual who can affect or is affected by the achievement of the organization's objectives. This definition broadly captures stakeholders as a people, groups, organizations and the society in general. For example, the cement industry has diverse stakeholders including; the government, employees, competitors, the general public, agents and distributors, financiers and investors.

The perception of an organization towards stakeholders influences the relationship and productivity of a business (Freitas & Hoffmann, 2012). Adequate stakeholder identification with their interest is central to their engagement. Fares *et al.*, (2021) acknowledges that the stakeholder theory reorganizes the diversity of stakeholder needs and associated competing interests with a potential of growing conflicts between the stakeholders and business organizations. Thus, response to the needs of some stakeholders may result in infringement of other stakeholder's interest. Notably, Jensen and Sandstrom (2011) recognize that; most stakeholder interests border on economic demands making them difficult to meet conclusively.

According to Donaldson and Preston (1995), there are three different, but mutually supportive, approaches to stakeholder theory including: (1) descriptive approach, which describes how companies respond to stakeholders; (2) instrumental approach, which analyzes the relationship between stakeholder management and the achievement of corporate performance goals; and (3) normative approach, which provides moral guidelines on how companies should respond to stakeholders. Donaldson and Preston perception recognizes the significance of normative approach in the buildup of stakeholder theory and propagates the idea of identification of stakeholders by their interests.

Alignment and integration of stakeholder understanding within the marketing concept plays a central role in productive stakeholder engagement for business and societal benefits (Hult *et al.*, 2011; Fobbe & Hilletoft, 2021). From a business perspective, the key focus of entrepreneurs in stakeholder engagement revolves around profit maximization, thus, striking the balance of achieving the dual purpose beneficial to both the stakeholders and the business is key (Freeman *et al.*, 2021). The complexity of the management philosophy must therefore be defined by these two boundaries; interest and business performance.

Social Contract Theory

The social contract theory has been advanced as a theoretical basis for explaining the emerging practice of

Corporate Social Responsibility (CSR) by corporations. Overtime, the concept has also been used to justify human rights in relation to business investments (Kaptein & Johan, 2002). Business ethicists and philosophers have made a significant effort to reconstruct and analyze the social responsibility of corporations from a social contract perspective with a focus of delinking it from human rights or the political social contract (Johnstone *et al.*, 2021).

Practically, the concept of social contract has been applied in the political spheres with a lot of impact and influence that can be extended and applied to the operations of corporations and manufacturing sector in a logical way (Moncrieff, 2022). Originally, the concept presented an understanding that that social contract postulates that society decides to move from a situation of undefined rights and incessant conflict over resources to a society under a social contract whereby individuals agree to honour the rights of others in return for guarantees that their own rights will be respected and protected.

In a study conducted by Ibanga (2018), the notion of the social contract alters the view that CSR is an exclusively corporate responsibility. It also dismisses the notion that CSR is a moral burden placed exclusively on firms to the absolute exclusion of the host communities. The idea of the social contract implies that CSR is a partnership concept with shared burdens. In the context of CSR, an alternative possibility is not that business might act in a responsible manner because of its commercial interest, but because it is part of how society implicitly expects business to operate.

In the context of this study, Social contract theory is applicable to sustainability of CSR projects focusing on environmental good of the society in which cement business operate. Inevitably, aligning business agenda with societal interest inclusion has proven to contribute to the business success. The practice has become a normative idea, reflecting values and ethical issues of the society. Part of the change wanted for an extra sustainable development, was therefore the implicit or specific set of values that project management professionals, business leaders or purchasers have and that influence or lead their behavior. The environmental issues around cement industry, demands sustainable CSR practices that spur the social sustainability that promotes the capacity of communities towards adaptation to the dynamics of sustainable environmental practices. Social sustainability is basically concerned with a network's capacity to meet primary human needs and offer competently for its participants. On this context therefore, the social parameters applies in defining the community well-being and fantastic impact that can be experienced from sustainable practices in the manufacturing sector. According to Enuoh (2017), there exists a social contract between a firm and the community in which it operates. Thus, the concept of Corporate Social Responsibility (CSR) clearly presupposes the idea of the social contract.

Environmental Aspects of Cement Industry

Cement manufacturing is associated with environmental degrading activities such as those from mining, industrial process pollution emissions and waste management challenges. The mining process for cement production involves the extraction of raw materials, such as limestone, sand, and clay, which contain the four primary constituents needed: lime, alumina, silica, and iron (Ige *et al.*, 2022). The industrial process is characterized by heavy energy consumption particularly in the clinkerization and calcinations which emits toxic gases like nitrogen oxides, sulphur oxides, carbon dioxide and particulate matters responsible for environmental degradation and health hazard near and beyond such factory locations (Eshikumo & Odock, 2017). The trend for greenhouse gases emanating from the cement industry will continue to increase as a result of infrastructural growing projects in the world (Ige *et al.*, 2022). Thus cement industries are likely to remain a major source of pollution in areas they are located which calls for the need to control their associated environmental concerns (Eshikumo & Odock, 2017). Often, local communities around cement industries have raised concerns and threatened legal actions against cement factories. According to Mehraj, *et al.*, (2013), the impact of emissions from the industrial plants result in global warming, acid rain, loss of biodiversity, reduced crop yield and adverse health effect such as chest discomfort, chronic bronchitis,

asthma attacks, cancers etc. The following is a summary of the main processes and the associated environmental concerns:

Mining Issues

The mining processes can drastically alter the landscape and ecosystem layers of the environment. For example, large mining operations have historically caused extensive vegetation destruction with the loss of vegetation cover happening in and beyond the mined areas (Dhoble, 2013). Similarly, mining alters the soil profile, hydrology, topography, and nutrient status of the substrate are also altered by the excavation of the substrate materials and the development of mine voids. Thus, the local biodiversity may suffer negatively as a result of these secondary influences.

Air Pollution

The process of cement manufacture releases gaseous pollutants to the environment leading to rise in the load of suspended particles with negative impact on the quality of air (Gregg & Andres, 2008). Similarly, dust is released during the handling of raw materials, crushing of limestone, burning of kilns, production and storage of clinker, the finishing of cement, and the usage of power utilities (Prajakta, 2023). According to a study report by Madlool *et al.*, (2011), cement manufacture has been responsible for 65% of greenhouse gases and about 5% of the world's total (man-made) carbon dioxide emissions. Another study by Garg, *et al.*, (2001), acknowledged the significant amounts of CO₂ that are produced during the cement making process, much of which is neither recoverable or reusable.

Water Pollution

Hydrology, water quality, and availability have all been impacted by cement production processes. Water recharge in the neighboring drainage basin may be impacted by the removal of overburden and mineral extraction from the lease area (Ighalo & Adeniyi, 2020; Etim *et al.*, 2021). As the surface runoff from the mining operation region would bring silt along with a high Total Dissolved Solids (TDS) and Suspended Solids (SS) load, the stream in the study area may experience effects on water quality such as changes in pH and in the TDS and SS (Dhoble, 2013).

Noise Pollution

Noise emissions occur throughout the whole cement manufacturing process from preparing and processing raw materials, through cement production process, to material storage (Stajanča & Eštoková, 2012). According to the noise processing process, industrial noise has been classified into complex gas noise, electrical magnetic noise and mechanical noise (Hongwu, 2003). Noise pollution has not only affected human hearing, but also the anatomy and physiology of human body system such as nervous, digestive and cardiovascular.

The Enviropreneural Marketing Concept

The concept of EM strategy addresses customers the needs by through a bridge between the stakeholders and potential customers through innovative solutions geared towards sustainability (Nguyen & Nguyen, 2020). The concept of green or ecological or enviropreneural marketing has rapidly developed from the 1990's as a result of research work targeting environmental responsibility following the consumer behavior and response to ecology, air pollution aspects and health concerns (Eneizan *et al.*, 2019). The scope of definition of EM has diversely been considered by different authors. For example, according to Tiwari *et al.*, (2011), EM is a holistic and comprehensive approach that includes aspects of manufacturing, waste minimization, re-use and recycling efforts targeting pollution prevention, global warming reduction and

general environmental considerations for the benefit of the society. Thus, the study suggested the benefits of green marketing as the best business opportunity and platform for entrepreneurs towards development of highly innovative products meeting customer needs while achieving a competitive advantage.

In light of corporate environmentalism, the concept has been viewed as a process by which business firms can integrate environmental concerns into their decision-making process through a holistic strategic approach that identifies, predicts and addresses the business stakeholder needs for a return with an interest on the environmental good (Ashrafi *et al.*, 2020; de Oliveira *et al.*, 2024). The concept is an emerging process of addressing environmental issues facing business firms while harnessing the associated advantages. From a social perspective, the concept can be viewed as an investment that incorporate social values into investment decisions with entrenched environmental principles for integrating environmental accountability and performance into business practices (Nicolaidis, 2018; Barko *et al.*, 2022). The idea has been viewed as an important development in the context of emerging economies in the world.

The adoption of resource conserving and environmentally friendly strategies in all the stages of cement value chain can make entrepreneurs satisfy the growing environmental concerns of humanity (Habert *et al.*, 2020). Unlike the conventional concepts of marketing, EM strategy derives the benefits of incorporating the extended responsibility of environmental sustainability. The mounting campaign for adoption and practice of EM has offered new business opportunities for organizations and marketers while pushing them towards proactive environmental strategies, innovation and research (Lopes *et al.*, 2022).

Enviropreneurial Marketing Mix

Environmental issues have played strategic roles in many companies to justify cost benefit decisions in the manufacturing sector. The green marketing concept has been justified on the platform of; green processes, green pricing, green promotion and green products. Thus the EM mix has been aligned to promote aspects of product alteration, packaging modification and green product communication. Promotion of EM strategies has faced drawbacks including; inadequate employee training and awareness, inadequate financial support, inadequate scientific and cost benefit knowledge back up and reluctant industry enforcement.

Green Product

Green products have been viewed as those that can meet sustainability requirements for an ecosystem (Vannevel & Goethals, 2020). Efforts to green product have seen development of packaging materials considered recyclable and reusable. For example, most cement factories in Kenya such as; Bamburi Cement Ltd and Mombasa Cement Ltd have adopted the use of re-usable packaging bags. Additionally, the packaging has been branded with advertisement promoting green disposal and re-uses messages as a way of propagating green marketing. The green product concept for cement has been designed to influence decisions and activities that tend to preserve the environment through energy efficiency and minimal environmental damage. Menon and Menon (1997), proposed strategic and technical considerations available for exploitation and promotion of green cement as a product in the market.

Green Pricing

Pricing has been viewed as an important factor of the marketing matrix because as most consumers in the Kenyan market are price sensitive and can only pay a premium price to perceived green product for its extra value (Gicharu, 2018). Green pricing has been perceived as a pricing system that covers economic and environmental costs of production and marketing in a fair manner that is mindful of the company and the customers (Martin & Schouten, 2012). According to Polonsky and Rosenberger (2001), it has been argued that customers can sometimes be willing to pay more for extra value of performance, function, design and

visual appeal.

Green Distribution

Green distribution relates to developing and enhancing a company's environmental agenda through a product supply chain (Hejazi *et al.*, 2023). Recent developments in the cement distribution in Kenya has provided customers with a gate way for return of recyclable packaging materials as a way of promoting green distribution. According to Zhu and Sarkis (2004), successful green distribution is characterized by strategic approaches set up by the company to promote eco-friendly policies and requirements for supply and distribution.

Green Production Process

Environmental issues associated with cement production have become increasingly important in organization theory and practice particularly for firms in the manufacturing sector (Njehu, 2003). The effort to comply with environmental requirements have has seen Bamburi Cement Limited embraced mechanisms intended to meet the International environmental standards (IES), evidenced by several investment projects to monitor and reduce environmental pollution resulting from the manufacturing process (Eshikumo & Odock, 2017). Further, in the year 2000, the company spent \$4Million on the state of the art kiln cooler dust collector in the effort to minimize dust emissions and lowering adverse global climate change. Environmentally sensitive cement companies have invested heavily in mined land reclamation, converting the sites to tourism sites and improved natural habitat for wild animals such as Haller Park in Mombasa (Siachoono, 2010).

The Stakeholder Contribution to Enviropreneurial Marketing

The linkage between the stakeholders and the customer value has been identified for healthy development appreciated by both business practitioners and academic research (Boaz *et al.*, 2018). Ideally, it is agreeable that the marketing effort towards optimization of business performance through profitability depends on a close relationship between stakeholder satisfaction and contribution. In the current development, environmental and social aspects take priority in the mind of stakeholders (Mensah & Casadevall, 2019). Such can adversely impact the business performance particularly in a world full of environmental concerns. According to Heslin & Ochoa (2008), EM practices have been perceived to clash with organizations corporate strategies that prioritize profitability without a keen eye to sustainability. Such perception is premised on the fear that engagement in EM practices adds to the firm's economic burden and lowers its profitability. However, Novitasari and Tarigan (2022), argued that; engaging in green practices in the manufacturing sector may present diverse competitive advantages that can propel the firm's performance from derived benefits of stakeholder satisfaction. In fact, Njehu (2003), discovered that, many cement manufacturing companies that have embraced the green marketing strategies and implemented environmental management systems such as ISO 14001 have tailored their corporate strategies to strike a balance between customers and stakeholder interests.

The need for green practices in cement manufacturing business seems to be of great concern among stakeholders whose level of information is on the increase as impacted by the impacts of climate change and growing publicity (Njehu, 2003; Rodrigues & Joekes, 2010). Generally, environmental protection lobby groups and crusaders have played a significant role in environmental issue publicity while driving the environmental policy agenda around the manufacturing sector (Menon & Menon, 1997). Commonly, the perception of the local communities towards cement manufacturing firm's environmental irresponsibility's has raised legal cases against many firms (Sharma & Henriques, 2005). Stakeholder engagement can therefore contribute to management and diversion of conflicts relating to environmental issues associated

with cement production and marketing. This can also manifest through managing political interference on the business (Mbole *et al.*, 2021)

Impact of EM Strategies on Business Performance

The main business aim of EM strategy is to give a business a competitive leverage over the competing firms. According to Barney (1991b, p, 102), a company gains a competitive advantage “when it is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy”. In the context of understanding the meaning of competitive advantage, it should be appreciated that EM strategies can be a beneficial feature that can lead to superior performance and profitability over competitors (Brunner & Narouzi, 2021). According to a study by Baker and Sinkula, (2005), the implementation of EM strategies can result in significant benefits to cement business such as through reduced costs of production processes, efficient use of raw materials and efficiency in energy consumption which generally reduces the production costs and increase profits. Likewise, Menon and Menon (1997), also emphasized the possible increase in sales, profits and market share as a result of implementation of EM strategies. Further, supporting research by Ginsberg and Bloom (2004), argues that enterprises implementing green marketing helps their customers access green products which in turn increase sales and profits.

Research Gap

The role of EM under the context of “going green”, has been studied in the context of modern day relevance and prospects for business performance. In many previous studies, the subject has been looked at in general terms with remotely created interlink between variables that can birth informed and more useful information to business performance. For example, the impact of green marketing on internalization of SMEs (Brunner & Norouzi, 2021), EM strategy in the context of corporate environmentalism (Menon & Menon, 1997), general green marketing practices in cement industry in Kenya (Njehu, 2003) and influence of environmental factor on marketing in relation to customer industry (Carrasco *et al.*, 2019) Further, the aspect of sustainability which is key to any business performance has conspicuously missed in most previous research. This study seeks to interlink the variables to business performance and reinforce the element of EM strategies to business sustainability.

Research Hypothesis

This research was premised on the following three hypotheses;

H1: Enviropreneurial marketing has a positive impact on cement business opportunities.

H2: Cement companies in Kenya relatively value the environmental aspects and its impacts to various stakeholders and stakeholder groups as salient features in their processes.

H3: Implementation of enviropreneurial marketing results in positive business performance.

METHODOLOGY

This section entails the research methods including; research philosophy, design, population, research sample, sample selection and data collection, research variables and measurement tools as applicable to the research subject. Finally the methods also present the statistical methods for data analysis.

Research Philosophy

Research philosophy is the belief guiding the way through which the research data relating to the situation

should be collected, analyzed and used (Wang, 2012). Ideally, the research philosophy encompasses the nature, the source and knowledge development in the field of study. There are four major philosophies that are commonly used in the field of research; positivist (scientific), interpretivist (also antipositivist), pragmatism and realism. Realism is a research philosophy that relies on the idea of independence of reality from the human mind. The philosophy assumes scientific approach to development of knowledge. Pragmatism research philosophy accepts concepts to be relevant only if they support action. The research philosophy embraces research question as the most important determinant of the research philosophy. The fields of social sciences have used pragmatism philosophy to create a middle ground between the positivism and interpretivism stands. By taking a middle position, pragmatists upholds that scientific inquisition non-formalistic and the investigator can take a subjective or objective dimension while attempting to answer a research problem. Studies based on pragmatism research philosophy can integrate the use of multiple research methods such as qualitative, quantitative and action research methods.

This study adopted a pragmatism approach philosophy, acknowledging the real problems related to the industry practice and seeking to contribute practical solutions for future practice. The study preferred pragmatism philosophy for its flexibility to incorporate operational decisions based on the most appropriate response to research questions under investigation. The application opens an opportunity for researchers to perform a more innovative and dynamic approach leading to practical solutions. The approach has a preference for its rejection of skepticism and flexibility to embrace fallibilism.

Research Design

Research design is the conceptual structure and a framework within which research is conducted. According to Kothari and Garg, (2014), it constitutes the blueprint for the collection, measurement and analysis of data. It is the general plan designed to respond to the formulated research questions in order to give an implementation structure to achieve the research objectives (Thomas, 2010).

This study used a qualitative descriptive research design to guide the process of conducting research, from data collection, analysis and reporting. Descriptive study contains the dimension of determining the degree of association or relationship between the marketing variables as can be applicable to EM strategies for cement industry. The purpose of descriptive research was to identify basic patterns by accurately and systematically describing a population, situation or phenomenon (Ang, 2014). Descriptive research study is important in gauging trend analysis and hypothesis generation.

Research Population

This study acknowledged the existence of eight number cement firms in Kenya including: Bamburi Cement Limited (BCL), Mombasa Cement Limited, East Africa Portland Cement (EAPC), Savannah Cement Limited (SCL), Athi River Mining (ARM), Rai Cement Limited (RCL), and National Cement Limited (NCL). The firms further comprise fifteen factories distributed across the country in various geographical locations. However, most of the factories are located close to the major cities where major construction projects occur.

Data Collection

The data used in this research was limited to secondary data collected from open source/publicly available sources. The data used had been collected in the past by some other researchers or for some other purpose and which was available publicly for use in this new research. The study did not use any secondary data for which permission to access was required. Using secondary data, ordinarily does not require ethics approval, as the data had already been collected by other researchers for the purpose of past research projects. The use

of secondary data was considered for purposes of saving on the research time and minimizing the cost of the study. Although some secondary data required controlled access such as author’s permission, subscription access or purchase, other data sources were publicly available, either through deliberate open access, company websites or organizational open data accessible without limitation. According to the British Sociological Association’s Statement of Ethical Practice (2004) the researchers bear the responsibility of informing participants of the use of data and obtain consent for the future use of the material as well. Where consent is required, the regulation further explained the need for renegotiated consent after the original data access.

Data Analysis

Data analysis represents the method used to collect and analyze data in a study. The data for this study was collected from secondary data sources considered in this study. Simple random sampling was used to pick companies considered in this study. The aim of data analysis was to test for validity, completeness and consistency with the statement of the problem. This being a case study, data collected was analyzed and presented qualitatively using content analysis. Significantly, content analysis helps to determine the presence of key words or concepts within text. This tool helps researchers quantify and analyze the presence, meaning and relationships of such words and concepts and make inference about messages. This method further enables the researcher to include large amounts of information and systematically identify its properties. According to Mugenda and Mugenda (2003), data analysis includes examining, categorizing and tabulating evidence to pave the way for data to be transformed into information through interpretation. The collected data was edited to eliminate errors and omissions in order to ensure accuracy, completeness and clarity.

RESULTS AND DISCUSSIONS

This section presents and discusses the results of this study for the five selected cement firms operating in Kenya.

Findings of Descriptive Statistics

The descriptive statistics was used to summarize the firms’ performance data in an organized manner depicting the relationship between the variables in the sample population.

Sales Performance Impacts of EM Strategies

The available sales volume data for four cement firms in Kenya over nine months was analyzed and summarized as follows:

Table 4.1: Monthly sales volumes by different firms in Kenya

Month	Cement Firm			
	BCL	MCL	EAPC	SCL
January	45,121.00	33,654.00	29,645.00	15,843.40
February	47,895.00	35,652.00	33,564.00	17,678.50
March	41,232.00	38,791.00	44,478.00	19,048.90
April	40,894.00	35,644.00	36,541.00	21,768.70
May	44,368.00	39,875.00	36,999.00	18,937.30
June	38,941.00	33,548.00	40,112.00	28,622.00
July	37,899.00	38,123.00	39,654.00	31,524.90

August	40,125.00	36,138.00	34,333.00	33,524.90
September	41,777.00	33,121.00	31,212.00	31,432.40

Source: Firms websites

Table 4.2: Descriptive statistics for the sales volumes

Month	Cement Firm			
	BCL	MCL	EAPC	SCL
Mean	42,028.00	36,060.67	36,293.11	24,279.56
Median	41,323.00	35,652.00	36,541.00	21,768.70
Standard Deviation	3,194.65	2,432.87	4,695.53	6,954.43
Range	9,996.00	6,754.00	14,933.00	17,681.50
Minimum	37,899.00	33,121.00	29,645.00	15,843.40
Maximum	47,895.00	39,875.00	44,578.00	33,524.90
Sum	378,252.00	324,546.00	326,638.00	218,516.00
Count	9.00	9.00	9.00	9.00
Confidence level (95.0% C)	2,455.62	1,870.07	3,609.30	5,344.65

Impact of EM Strategies on Market Share by Firms

The following data represent the market share for cement forms in Kenya. The data is further plotted in a pie chart, Fig. 1, for ease of analysis. The data shows that cement industry in Kenya has been dominated by old firms including; BCL, EAPC and ARM. However, over the recent years, new entrants got into the market imposing competition in the market. For example; MCL in 2007, NCL in 2008, SCL in 2012, NCL in 2013 and RCL in 2017. The growing competition for the market share has impacted on the EM strategies as a platform for competition. The following Table Fig.1 represents the current market share distribution.

Table 4.3: Market share distribution among cement firms in Kenya

Firm	BCL	MCL	ARM	EAPC	NCL	SCL	Others
Market Share	26	17	17	17	17	4	2

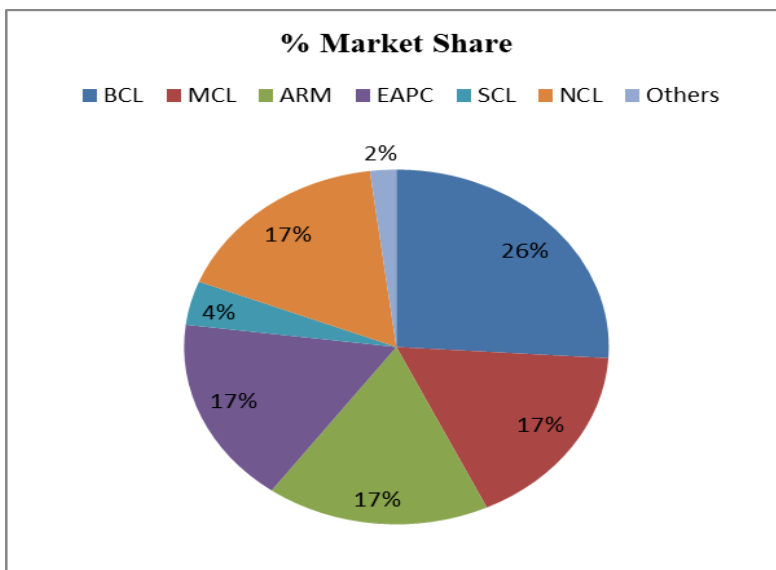


Fig. 1: Market share distribution among cement firms in Kenya

As indicated in figure 1. BCL commands the largest market share at 26% while ARM, EAPC, MCL and NCL each have 17% percent of the market share. SCL follows in the third place with approximately 4% while the new entrants control the remaining 2%. NCL and MCL are viewed as major rivals to BCL considering their late entry and created impact. The findings of hypothesis test were summarized and described following the aims and objectives of this study. The summary and description are detailed as follows;

EM Strategies and Impacts on Cement Industry in Kenya

This section presents the findings of EM strategies applied to the various stages of the cement manufacturing processes in Kenya by different firms. Further the section picks and highlights the impacts of the environmental threats associated with different activities.

Mining and Raw Material Transport Management

Across all the cement factories operating in Kenya, transportation of the raw materials takes place by trucks largely through all-weather roads associated with heavy dust emission particularly during dry seasons. To manage the environmental and health impacts of the dust, most of the cement companies have invested in water bowsers to suppress the dust from the roads. Similarly, the firms regulate the speed of the trucks as a secondary measure to manage dust and noise emission. An induction process prior to the driver's employment is a common practice involving training on efficient operations to curb environmental pollution.

Similarly, there is a common practice of investment in trees planting around the mining areas. Trees are known for their use in absorption of toxic gases such as CO₂ while also acting as dust suppressers by limiting dust movement to residential and other active human operation areas. A further effort has been implemented by ARM, SCL, MCL and BCL companies in development and free distribution of seedlings for planting by general public as additional effort of boosting the tree population aimed at managing dust and gaseous pollution.

The mining process for cement raw materials involves heavy use of explosives that adversely affect the environment through heavy noise and dust emissions. The level of noise and vibration from the blast operations vary depending on distance of measurement from the mining blast holes, their number, amount of blast explosives used and the nature of rock. Considering regulations by the Mining Act of Kenya, a majority of the cement companies have made effort to invest in modern explosives and micro time delay explosives which shatter rocks with minimal noise, vibration and dust emission. The regulators enforcing environmental safety compliance such as NEMA have from time to time conducted compliance audit in the mining and transportation processes and occasionally closed down operations pending compliance.

Dust Management Technologies

To curb dust emission at the industry level, most factories pioneered by BCL, are fitted with stacks that emit gases and particulate emissions. For example, ARM has three such stacks at coal mill and two bag houses positioned at different heights. Dust from stacks originates from clinker coolers and cement mills.

Eventually, the particles are dispersed and plume after exit from the stack. Such dispersion is controlled by trapping the emission through reverse air fabric filter before venting for stacks bag-house. Coal mill stacks use electrostatic precipitators and cyclones to trap the dust particles while measurement of exhaust gases, velocity through the duct is continuously conducted while the data is stored within the systems. The efficiency of this dust arresting technique is ensured through routine maintenance and replacement of parts. Savannah Cement has been reported to operate at a minimal dust emission due to investment in a modern

efficient technology. This has gone a long way in helping the company make strides towards environmental preservation considering the biggest environmental challenge affecting cement firms is the cement dust.

Solid Waste Management

Solid waste from cement industries can damage the environment if not properly managed through a well-designed mechanism and procedures. Cement industries in Kenya have generally made efforts to promote cleaner environment free of solid waste through; source segregation, recycling and reuse of the wastes. Strategies to ensure appropriate disposal of cement related hazardous waste has generally been ensured through onsite incinerators. Similarly, garage wastes such as worn out spare parts and tyres are disposed by incineration. Prompt incineration has been ensured for sorted solid waste while recyclable solids such as metals are disposed through steel/metal smelters. Other solid waste such as electronic wastes including end of life computers, printers, electrical fittings are generally stored for periodic disposal. Most of the cement companies in Kenya have documented policies for re-use of wastes for purposes of waste reduction and raw material efficiency maximization. Table 4.1 shows the various categories of waste, their sources and disposal methods.

Table 4.4: Types of waste, sources and disposal methods

Waste	Source(s)	Disposal Methods
Hazardous wastes		
Used oil, spares and metals	Servicing/routine maintenance of machinery/equipment etc	Collected and returned to the suppliers for treatment
Dust	Point source dust from grinding mills	Trapped in the bag filters and returned back to processing
E-waste	Computers, printers, and electrical fittings	Collected and stored for planned disposal
Non Hazardous waste		
Industrial waste e.g torn cement bags	Cement bag filling process	Collected for recycling
Domestic waste	Kitchens, Staff canteen and offices	Liquid waste discharged into the septic tanks; organic waste decomposed into manure Solid waste collected by outsourced NEMA waste handlers for proper disposal/treatment

Community CSR Projects

The cement firms in Kenya participate in a number of corporate social responsibility (CSR) projects as a point of interaction with the communities and improvement of their livelihood, curbing impacts of cement industries to the surrounding environment. For example, ARM engage in CSR through its subsidiary wing dubbed Rhino Cement Foundation operating under three main pillars; health, education and environment. The health wing aims at providing affordable health services to the neighboring communities while the education wing offers scholarships to students from secondary schools through universities. On the environmental front, there's a general tendency across the cement companies of free annual seedlings distribution to the local communities, through schools, local administration and community groups through the CSR platform. The companies also practice community education and trainings on environmental matters and their need for involvement and participation. Other environmental CSR practiced include soil sampling and testing coupled with distribution of non-acidic fertilizers and seeds to boost agriculture and

food security. Table 4.2 shows results of CSR approaches adopted by various cement firms in Kenya.

Table 4.5: Various CSR approaches by different cement firms in Kenya

Parameter/approach	Cement Firm							
	BCL	MCL	EAPC	SCL	ARM	NCL	RAI	NCL
Afforestation by the company to rehabilitate quarries	5	3	3	1	2	2	1	1
Distribution of seedlings to the neighborhood	5	4	4	4	4	3	1	2
Health matters such as medical camps	4	4	4	3	4	4	3	4
Paving of road sections plied by the trucks	4	3	3	2	2	1	1	1
Watering of dusty roads	5	4	4	4	4	4	4	4
Schools projects e.g classrooms construction	4	4	3	2	3	3	2	2

(Very strong=5, Strong =4, moderate =3, Weak =2, No action =1)

Challenges Associated with EM Strategies in the Kenyan Cement Industries

In addressing one of the research objectives, this study sought to establish the challenges associated with implementation of EM strategies across the cement industries in Kenya. Some of the challenges established included the following:

Cost of Investment in Modern Technology

Modern technology such as applicable in the industrial processes has the potential of averting environmental damage and its impacts to environment and health, whereas most cement industries are stuck in old technologies associated with considerable environmental harm. The challenge of switching from old to new/modern technologies comes with heavy investment cost that most firms have shied away from, thus maintaining the status quo. The cost of effective technology remains a challenge and a constraint. A report by UKaid on the manufacturing sector 2016, acknowledges the underinvestment in modern technology as a recipe of high cost of production occasioned by low energy efficiency.

The application of the available technology in Kenya is another limiting factor to efficient environmental compliance. The Kenyan industrial sector faces inconsistent and unstable power supply, interruptions that impact on machines and equipment consistency, efficiency and lifespan. There is a gap to development of an indigenous solution that addresses the technology gap in the manufacturing industry in Kenya. Secondly, application of imported technology has also experienced challenges of inadequate and insufficient manpower for sustenance. Notably, the gap is aggravated by the reluctance of the manufacturing sector for investment and support for local solutions which often leads to high investment and maintenance cost through imported technology.

From another perspective, the success of supply chain is equally hampered by the technology shortage. There is need for the local companies to avoid overreliance on imported components that are often sold at exorbitant prices. Rather, in a worst case scenario the assembly plant for such parts should be easily accessible locally.

Substantial Plant Capital Investment

Cement industry requires heavy capital outlay to achieve efficient plant that is also in compliance with environmental requirements, thus, many firms in Kenya have shied away from activities viewed as secondary and not directly aligned with cement production and sale. The initial stage of investment is

characterized by heavy experienced personnel requirement with technical knowhow to the state of art technology and strategy to an efficient plant operation that is often lacking in Kenya. Thus the gaps lead to a loophole for environmental considerations and compliance that denies the business from benefiting from derived benefits available for EM compliance. Financing huge and long term capital remains a challenge to most cement firms in Kenya as firms can only access costly short term capital that is unsustainable. For example, high expenditure arising from costly short term borrowing has been reported in ARM full year net loss up to KES 2.9 billion in 2020.

Although the commercial banks are often willing to lend to the manufacturing sector, the terms are often undesirable, constraining and unacceptable. The interest rates are always extremely high in the range of 18-20%. The aspect of high lending rates is a factor limiting the manufacturing sector access to capital making business difficult and strenuous. The spillage of this effect is evident on the extent of accommodation of participation in CSR projects and investment in environmental aspects.

Political Influence in the Manufacturing Sector

Politics impacts uncertainty on business investments and eventually determine the extent to which and investor may be willing to invest and risk their resources. Furthermore, political volatility makes it challenging for the government to regularly and effectively address the challenges in the manufacturing sector. Oversight for prudent environmental management by government agencies over the manufacturing sector such as the cement industry can adversely suffer from political interference. Efficient implementation of EM practices calls on the support and good will from the political class and the government.

Under the impacts of devolution from the Kenyan new constitution 2010, the political class and the county governments in Kenya have increased levies on the economic sectors such as manufacturing to raise more funds for sustenance of the local government budgets. Nairobi County, for example, has increased levies on manufacturing business operations since 2013. Some of the revenue sectors that have been affected include; advertisement costs, operating and trading licenses and manufacturing transport expenses. The ripple effect has not spared the cement manufacturing sector with most firms resorting to lower their commitment to CSR and environmental beneficial programs.

Ineffective Regulatory Policies

Government policies regulating environmental pollution control in Kenya is implemented through the government agencies such as NEMA. Such regulations restrict industrial emissions, operation practices, health and safety as a result of the manufacturing industrial activities. All the cement companies in Kenya are expected to comply with such regulations during their operations. Noncompliance has seen temporary or permanent closure of some firms. However, there is arguably laxity in enforcement of such regulations due to corruption and lack of adequate enforcement structure and personnel. Successful policy enforcement calls for the use of best technologies to curb emissions, investment in efficient energy use and making use of environmental management systems developed by policy makers.

A study by Njehu (2003) summarized the challenges in simple expression as shown in Table 4.3. The results were obtained through an interview of 29 respondents to determine their perceived challenges of cement firms turning green.

Table 4.6: Challenges that the cement companies are facing while turning green in Kenya (Source Njehu, 2003)

Challenges	No. of respondents	
Financial	6	21%

Ignorance	2	7%
External forces	4	14%
Employees resistance	2	7%
Negative publicity	3	10%
Rivalry from competitors	6	21%
Legislative	5	17%
Understaffing	1	3%
Total	29	100%

Enviropreneurial Marketing Opportunities in Cement Industry in Kenya

There exist a number of opportunities that can be exploited for the advancement of environmental agenda in the cement manufacturing by firms operating in Kenya. Such opportunities will promote the environmental compliance for further derived benefits. The section below picks out some of the considerations.

Adoption of High End Technologies

Investment in high end technology has the potential of improving efficiency of operations while minimizing environmental damage realized from the efficient process. Old and obsolete technologies greatly practiced by developing countries such as Kenya are a catalyst to toxic emissions and environmental damage. Although the cost of investment in the state of art technology may appear prohibitive, the eventual benefits such as speed, efficiency, safety and environment outweighs the initial cost of investment with extended advantage to the surrounding and the global environment. Evidently, this study has established the heavy environmental degradation throughout the cement manufacturing process by firms operating in Kenya. The activities, right from mining, raw material haulage, and industrial processes to loading and dispatch are all characterized by heavy air and water pollution which are of serious concern. To harness this glaring benefit, the firms need to invest in their system and plant upgrade such as electronic precipitators to curb stack emissions. Secondly, the firms need to invest in paving their raw materials access and delivery roads for environmental benefits and reduced cost incurred in sprinkling with water for dust suppression.

Adopting Environmental Management System (EMS)

Developing countries continue to explore infrastructural projects that largely demand the use of cement as a building material (Mpakati-Gama, 2012). The resulting demand for cement increases the risk of environmental degradation particularly from the production practices in the developing world (Mohamad et al., 2021). There is a general societal and regulatory concern on environmental impacts on the natural resources calling for the need to address sustainable exploitation and use (Njehu, 2003).

Adoption and implementation of EMS can help a firm improve its performance and improve compliance and alignment to best practices in the industry (Sharma & Kumar, 2021). For example, ISO14001 standard offers guidelines for improvement of environmental management through a systematic approach. Adjustment to business processes and procedures such as cement business can result in improved performance for shared prosperity. Adopting and implementing EMS by cement firms can improve efficiencies of the processes, improve compliance and minimize operation costs and environmental damage.

Large Scale Afforestation

The effort towards land reclamation and habitat restoration has been greatly implemented by BCL in Mombasa (Siachoono, 2009). This led to establishment of a habitat for aquatic and woodland wild animals

that have resulted in revenue earning through tourism and recognition awards (Eshikumo & Odok, 2017). Similar efforts of mine land reclamation and rehabilitation have not been well sufficiently emulated by other cement firms in Kenya. However, a little emulation has been witnessed by ARM, NCL and MCL companies through distribution of tree seedlings to local communities under CSR projects. To achieve sustainable benefits, a deliberate effort towards heavy investment in land reclamation through afforestation is still required from cement firms in Kenya. The resultant benefits will not only be beneficial to the environment at large but also a revenue stream such as BCL's Haller Park in Mombasa. Afforestation programs will increase the tree cover that will act as a carbon and other toxic gases sink while also trapping dust, acting as wind breakers and beautifying the environment among other benefits.

Emission Reduction Measures

Cement production process in Kenya involves overdependence on coal and oil as sources of power due to electricity power instability. A study by Nunes (2023), revealed a lot of environmental pollution caused by emission of energy and gases emanating from raw materials and the use of fossil fuels that causes a major risk to health and safety of communities in the neighborhood. The amount of dust and CO₂ emitted by cement industry ranges between 5-6%. The process also emits other toxic chemicals such as nitrogen oxide, fluorides, chlorides and sulphur dioxide, heavy metals, organic compounds and water vapor (Schuhmacher et al., 2004).

To curb the dangers associated with overreliance on fossil fuels by the Kenyan cement industry, there is a glaring need to explore alternative fuel substitutes that are clean, renewable and sustainable. Such efforts have been practiced in other countries including the use of waste tyres to reduce energy and lower cost of production, investment in afforestation particularly in mined quarries to act as an immediate carbon sink and investment in air quality monitoring systems. Such opportunities can potentially optimize the processes and result in rewarding and sustainable benefits.

Exploration of Alternative Materials

Cement industry is known as a heavy energy consumer accounting for approximately 2% of the world's energy and is responsible for approximately 5% carbon emission (Ali et al., 2011). Teker Ercan et al (2023) suggested that fly ash, gypsum and dust are potentially available for use as alternative raw materials. Adoption of such materials can potentially reduce CO₂ emission and reduce the cost of production. Alternatively, the production process can also consider using wastes from other industries such as plastics and solvents as alternative fuels. Exploring the use of alternative materials can reduce the risks associated with the traditional quarrying processes and minimize pollution associated with raw materials mining processes. Secondly, such alternative materials can lower the cost of production; reduce carbon emission and its related environmental impacts.

CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

This section summarizes the findings, makes conclusion and recommendation and presents the limitations of the study.

Summary of Findings

The results illustrate that the cement firms in Kenya are sensitive to environmental issues as relates to the business. Efforts to measure up to the environmental requirements have been made by all cement firms. However, the extent of compliance and application of strategies extremely vary across the firms. The findings reveal that, BCL, has made the best effort and the impacts of such has reflected in the firm's performance. The firm commands the biggest market share at 26% ahead of all other firms including those

that are equally old in the market that follow at 17% market share. Further the evident better application of EM strategies by BCL can be cited through better sales volumes by the firm. The findings further reveal that financial investment and pressure from competitors are the most critical factors hindering cement firms effort to embrace EM strategies. Notably, there are still a lot of opportunities for exploitation by the cement firms in Kenya, such as large scale afforestation, adoption of EMS, exploration of alternative materials, investment in advanced technology among others.

Conclusions on the Study Variables

Among the study variables including; firms performance, market share by the firms, challenges and opportunities, this study concludes that implementation of EM strategies relate to the cement firms financial performance as reflected by cement firms financial performance through sales volumes. BCL, with high rating on EM implementation also enjoys the best sales volumes whereas firms with moderate implementation rating follow distantly. Similarly, there is a relationship between the EM strategies to cement market domination by market share where BCL further command the greater market share at 26% followed by MCL, ARM and EAPC at 17% while other firms with minimal consideration of EM strategy followed at just 4%. The major challenge hindering implementation of EM strategies in the Kenyan cement industry was finance and response to rivalry, rating at 21% against the least challenge revealed as ignorance and staffing rating at 3 and 7% respectively.

Recommendations

This study recommends a possible inclusion of primary data sources that can be established first hand and with the ability to eliminate biases. Further, to obtain more detailed findings, there is need to expand the study period to allow detailed verification of data and improve the researches concentration for meaningful outcome.

Limitations of the Study

This research work depended on secondary data that exhibited limitations associated with data that had been collected for possibly other specific purposes different from the purpose of this study. Thus, the accuracy of the data sources might have not been entirely appropriate and demanded careful extraction and interpretation. The need for careful interpretation and usage of this kind of data imposed a limit to the extent of response to research question(s) and the effort to meet the research objectives. It is also notable that the usage of secondary data also limited the researcher's control over the data, as the researcher relied on data previously collected by other researchers.

As a case study research, this study experienced insufficient scientific rigour without a basis for extending findings to a broader population. Similarly, the study appeared more subjective, with the temptation of enticing the researcher to inject personal opinions that may create research biasness. In addition, the research reference data provided limited information following the constraint of instruments and sixteen weeks' time used during this study.

Conclusions

This study concludes that there exists a relationship between implementation of EM strategies and cement business performance. Out of the eight cement firms studied, BCL whose performance rating for implementation of EM concepts also comes first is also the best performing and most competitive cement firm in Kenya. Although implementation of EM concept faces a myriad of challenges, this study concludes that the challenges are manageable in the interest of environmental well-being and value transferable to the stakeholders and general public. With the major challenge being financial investment, the cost of

compliance should be factored in at the time of business initiation with environmental focus primarily considered. Successful implementation of EM strategies can be achieved through a deliberate effort embedded in planning. This study noted numerous opportunities that can be implemented progressively with promising competitive advantage for the existing firms. The opportunities require varying level of effort and resources. Basic concept of land rehabilitation and afforestation is such opportunity easily implementable with minimum resource. Efficient industrial components are another major consideration to have a plant that operates with minimal harm to the environment. A well maintained industrial system can drastically lower adverse environmental effects in the plant neighborhood and beyond. This can also guarantee employees safety and health for sustainable existence in business. Thus, EM remains a significant marketing tool for cement in the Kenyan business space.

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