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# ***THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT***

## **Effects of Supplier Relationship Management on Supply Chain Performance at Bamburi Cement Mombasa, Kenya**

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### **Abstract:**

*Supplier Relationship Management (SRM) plays a pivotal role in reduction of costs and increased efficiency in the supply chain function. Supplier relationship management is the business process that provides the structure for how relationships with suppliers are developed and maintained. SRM has become a critical business process as a result of competitive pressures; the need to consider sustainability and risk; the need to achieve cost efficiency in order to be cost competitive and the need to develop closer relationships with key suppliers who can provide the expertise skills necessary to develop innovative ideas of new products and successfully bring them to the market. Significant benefits are possible from better managing relationships with key suppliers. It has been shown that integration of operations with suppliers can improve firm performance. An additional benefit of cross functional, collaborative relationships with key suppliers is the ability to co-create value. The main objective of the study was to establish the effects of SRM on supply chain performance at Bamburi cement limited Mombasa, specific objectives will be, To establish the effects of value creation on the supply chain performance at Bamburi cement, to determine the effects of competitive advantage on the supply chain performance at Bamburi cement, to determine the effects of quality improvement on the supply chain performance at Bamburi cement, to find out the effects of lead time reduction on the supply chain performance of Bamburi cement. The theories include value configuration theory, Capability-Based View theory, and Economic order quantity theory. Questionnaires was used as the main data collection instruments. Stratified sampling method was used. Descriptive statistics was used aided by Statistical Package for Social Scientists (SPSS) version 22 was used to analyze the quantitative data. The study was used also utilize multiple regression analysis to determine the relationship between Supplier Relationship Management and Supply Chain Performance. From the study it was revealed that value creation has led to increase of market shares and competency and that there is understanding and closeness between customers, long range relationship and contract to encourage suppliers to improve quality of their products and that inventory related cost has been reduced through lead time. From the study it was concluded that independent variables studied have significant effect on supply chain performance Recommendation was that Bamburi cement limited should collaborate with suppliers in order create value to their supply chain processes and products and endeavour to have a competitive advantage against their competition and maintain their position in the market as the best compared to other cement companies by ensuring customer satisfaction.*

## **1. Introduction**

### *1.1. Background of the Study*

Business operations have become complex, uncertain and very competitive. In order to remain competitive and relevant in the market, most companies have developed strategies to cope with these challenges. Supply chain being an integral part of the business highly contributes to the success of an organization especially, when modern technologies for instance integration are used. However, this cannot be achieved without managing good relationships with the suppliers. Supply chain deficiencies pose threats to most organizations especially those who do not perceive the need for supplier relationship management (SRM) (Akintoye, *et. al*, 2013). Supply chains are becoming increasingly complex and dynamic; distribution channels are expanding with an increasing dependence on outsourced manufacturing and logistics. Smith, *et. al*, (2013). A more critical and comprehensive understanding of the buyer-supplier relationship and an effective supplier management has become increasingly important to a firm's overall competitiveness (Berkowitz, 2004). According to Cavinato (2012), the term "Supplier Relationship Management (SRM)" refers to the practice and process for interacting with suppliers. Most supply professionals view SRM as an organized approach to defining what they need and want from a supplier and establishing and managing the company-to-company (or procurement-to-sales) link to obtain these needs. Formal or not, academic and consulting company research shows that organized approaches to supply and suppliers produce positive sourcing results.

Supplier relationship management acts as a focal point between the organization and the final consumers. Organizations that have problems with their supply chain networks or channels can adopt Supplier Relationship Management practice to enhance their supply chain efficiency. Hughes & Jonathan, (2010) stated that “inefficient supply chains were the major cause of poor organizational performance” he insisted that organizations with integrated supply chains recorded high profits than those who paid little attention to supply chains (Rogers, 2001).SRM allows for the development and maintenance of these strategic relationships with key suppliers and forces enterprises to adopt a new way of thinking about the supply chain and supply chain transparency.

Rather than seeking the greatest short-term advantage in each transaction, suppliers and their customer organizations seek to work together in close collaboration for long-term mutual advantage Shin, *et. al*,(2014). These relationships require a new level of trust and commitment that, in past the absent. The trust and commitment mentioned above, motivates suppliers to share their manufacturing, engineering, transport expertise with the organization.

By gaining access to this intellectual capital, the organization will be able to design better products and implement leaner and more efficient manufacturing processes. Supplier expertise on transport economics can also be employed by the organization to cut distribution costs and get to market quicker. Cost reductions can be passed onto consumers as decreased prices and this, together with increased speed to market, increases the organizations profitability and strategic competitive position Shin, *et. al*,(2014). Kenya is the most industrially developed country in East Africa, but it has not yet produced results to match its potential. The manufacturing industry has to put in more effort to ensure that it performs better and contributes more to the country’s GDP. For the manufacturing companies, suppliers play a major role on the performance of that company (Bart, 2009).

### 1.1.1. Bamburi Cement Limited Mombasa

Bamburi Cement Limited is a subsidiary of Lafarge. It was started in 1951 with its first plant located in Mombasa beginning production in 1954. It is the largest cement manufacturer in Kenya, enjoying local dominance both in terms of production and market share (Kenya cement industry, 2012). It has three active subsidiaries: Hima Cement Limited, Bamburi Special Products Limited and Lafarge Eco Systems Limited. In addition it has the world famous quarry rehabilitation, Haller Park. Bamburi Cement Limited has a number of high quality products on the market, including Power Plus, Bamburi Blox, Power Max and Nguvu brand cement. In addition, it gives utmost priority to safety in all its operations (Bamburi Cement Annual Report, 2012).

The entry of new players into the cement sector is eating into the profitability and market share of the established players like Bamburi Cement Limited. In the East African Cement Sector (2012), the domestic market share estimates clearly shows that Bamburi Cement Limited has. Its market share was 55% in 2005, 40.5% in 2011 and projected to be 38% in 2015. This trend is worrying, in order to survive and continue enjoying local dominance in production and market share, BCL has to develop and embrace new technologies and strategies and maintain good supplier relationship management in order to avoid quality problem, delays in delivery, value creation and competitive advantage to improve its performance.

High cost of production due to frequent fluctuations of fuel and oil prices, competition and Stockholding costs are some of challenges highlighted by Mwanzia, (2013) that are facing Bamburi Cement Limited. Old Mutual, an investment company, projects that the East African region will face a situation of excess supply by 2015, due to the entry of new players and further capacity enhancement by existing producers, leading to downward pricing pressures (Michira, 2012). Tourki, (2013) in his SWOT analysis for the cement industry highlighted the changing forces that drive the decision maker to think about applying and implementing lean philosophy as significant global increases of fuel and energy costs, the pressure to keep prices lower than the Competitors and high market demand that put the cement industry under pressure to simultaneously reduce cycle time and downtimes, and increase utilization and throughput of the equipments.

### *1.2. Statement of the Problem*

A number of studies have been done on Supplier Relationship Management and supply chain performance. Supplier relationship management is gaining momentum globally due to immense competition in the manufacturing industry. This has triggered the need to develop better relationships with suppliers to enhance Supply Chain Performance. Gently and Ford (2003) suggested the need to redefine supply chain management relationships in order to enhance productivity in organizations. They argued that with better supplier relationship management organizations can reduce cycle times and reduce costs in supply chains.

Hsiao (2002) on her study found that trust, communication, cooperation and power dependence with supply contracts had a positive relationship on supply chain performance in retail outlets in Taiwan.

Mettler & Rohner, (2014) found that by exchanging product and supplier information with other hospitals, the purchasing department under study made the first move to establish strategic aspects of SRM. The availability of comprehensive and up-to-date product information could enhance the bargaining power of the hospital’s purchasing department. Hospitals which had experience with ICT-supported sourcing had sustainable cost reductions. Muriithi, (2013) found out one Communications Company relied only on one supplier, there were no professionals in the procurement department, no early supplier involvement, poor coordination and information sharing between supply chain partners, this caused delays within the supply chain especially when the supplier took long to supply products and services.

Previous local studies investigating the impact of supplier relationship management have limited themselves into retail industries. Previous studies majorly focus on the last stage of the supply chain which is delivery of finished goods; however this research aims to focus on Supplier Relationship Management from procurement of raw materials to delivery of finished goods. Although previous research has explored the effect of supplier relationships management (SRM) on performance of firms (Dyer & Chu, 2000; Sanchez &

Perez, 2003; Flynn. 2010). Njeru, (2013) argued that the Bamburi cement industry plays a forward and backward linkage with other economic sectors hence playing a critical role as an indicator to the general economic conditions.

It also supports the community in term of income, community programs and skills. Bamburi faces a lot of challenges that threaten its survival in the globalized market this includes the entry of new players into the cement sector is also eating into the profitability and market share of Bamburi Cement Limited. The increased competition leads to downward pricing pressures as all cement producers are competing on the basis of price, Mwanzia, (2013). Bamburi cement has been experiencing delays in delivery of goods by suppliers, competition from other competitors, losing market share competitors due to lack of collaboration and poor communication between the company and supplier which is supposed be maintained to enable the company to improve quality of the product than the competitors and create value in supply chain performance, (Bamburi Cement Annual Report, 2012).

The study seeks to answer the following research questions: To what are the effects of value creation on supply chain performance at Bamburi cement? What are the effects of competitive advantage on Supply Chain Performance at Bamburi cement? What are the effects of quality improvement on supply chain performance at Bamburi cement? What are the effects of lead time reduction on supply chain performance at Bamburi cement?

### *1.3. Objectives of the Study*

#### 1.3.1. General Objective

The general objective was to analyze the effects of supplier relationship management on the supply chain performance at Bamburi cement limited, Mombasa.

#### 1.3.2. Specific Objectives

The study sought to achieve the following specific objectives:

- i. To establish the effects of Supplier value creation on the supply chain performance at Bamburi cement
- ii. To determine the effects of Supplier competitive advantage on the supply chain performance at Bamburi cement.
- iii. To determine the effects of Supplier quality improvement on the supply chain performance at Bamburi cement.
- iv. To find out the effects of Supplier lead time on the supply chain performance of Bamburi cement.

### *1.4. Research Questions*

- i. What are the effects of Supplier value creation on supply chain performance at Bamburi cement?
- ii. What are the effects of Supplier competitive advantage on Supply Chain Performance at Bamburi cement?
- iii. What are the effects of Supplier quality improvement on supply chain performance at Bamburi cement?
- iv. What are the effects of Supplier lead time on supply chain performance at Bamburi cement?

### *1.5. Justification of the Study*

The study was to help the management and especially supply chain managers in Bamburi cement and others firms to have a deeper understanding of supplier relationship management and its importance to service delivery. This was in effect enable them implement better supplier relationship management strategies that was to address quality problems, high costs and late delivery among others. To the government, regulators and other partners this study will help ease the pressures that manufacturing firms get from their suppliers. The findings will also be valuable to future researchers and academicians as it was to extent the existing knowledge besides acting as a source of reference. In addition, the study would suggest areas for further research that future scholars and academicians can further knowledge on. Academicians can do further research on supplier relationship management on the supply chain performance of other sectors in the County in order to generalize the findings.

### *1.6. Scope of the Study*

Supplier relationship management is one of contemporary issues in supply chain performance. Supplier relationship management varies from different organization. This means each organization has its different supplier profile because of nature of their requirements. The research therefore forecast on effects of supplier relationship management on supply chain performance at Bamburi cement. The study was conducted at Bamburi cement Mombasa and targeted four departments, Procurement department, logistics department, quality department and maintenance department at the Bamburi cement employees and will take two months to be completed.

## **2. Literature Review**

### *2.1. Introduction*

The purpose of this section is to provide a critical evaluation of the available research evidence about Supplier Relationship Management and how it influences Supply Chain Performance at Bamburi cement limited, Mombasa. It covers various studies conducted by other researchers on supplier relationship management and supply chain performance. This chapter begins by reviewing the three theories underpinning this study. Supply relationship management is then discussed in depth, bringing out four attribute, value creation, competitive advantage, quality improvement and lead time reduction.

## 2.2. Theoretical Review

There are three theories discussed that underpin this study. These include, value Configuration Theory

### 2.2.1. Value Configuration Theory

Value configuration theory focuses firm-level competitive advantage. Value configuration theory starts from the premise that competitive advantage cannot be understood by looking at the firm as a whole. Competitive advantage stems from the many discrete activities a firm performs in generating and delivering value Porter, (2015). Each of these activities can contribute to a firm's relative cost position and create a basis for differentiation. The theory provides a systematic basis for analysing and developing competitive advantage. A firm is broken down into value .There is a fundamental distinction between primary and support activities. Primary activities deliver value to the customer. They define the firm's business model. According to value configuration theory there are three basic, alternative ways that firms create value. In addition to Porter's initial formulation with the value chain. value configuration theory proposes that there is the value shop and the value network Fjelstad, *et. al.*,(2012)While the value chain is a template for the analysis of firms that deliver value by transforming inputs into goods, the value shop is a template for the firms that deliver value by solving a customer's problem.

### 2.2.2. The Capability-Based View theory of Competitive Advantage

Grant (2013) argued that capabilities are the source of competitive advantage while resources are the source of capabilities. Amit and Shoemaker (2003) adopted a similar position and suggested that resources do not contribute to sustained competitive advantages for a firm, but its capabilities do. Haas and Hansen (2005), as well as Long and Vickers-Koch (2000),supported the importance of capabilities and suggest that a firm can gain competitive advantage from its ability to apply its capabilities to perform important activities within the firm. Amit and Shoemaker (2013) defined capabilities in contrast to resources, as 'a firm's capacity to deploy resources, usually in combination using organizational processes, and effect a desired end.

They are information-based, tangible or intangible processes that are firm-specific and developed over time through complex interactions among the firm's resources'. Teece, *et. al.*, (2014) define dynamic capabilities as, 'the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments'. Grant, (2013)defines organizational or indirectly to a firm's capacity for creating value through effecting the transformation of inputs to outputs'. Grant, (2013) also divides capability into four categories: cross-functional capabilities, broad-functional capabilities, activity-related capabilities and specialized capabilities. Sirmon *et al.* (2013) stressed the importance of organizational learning. They suggest that capabilities and organizational learning implicitly and explicitly are a part of any strategy within a firm. It has been argued Zack, (2013) that the ability to learn and create new knowledge is essential for gaining competitive advantage. Lee *et. al.* (2011) discussed the influence of internal capabilities and external networks on firm performance.

### 2.2.3. Economic order Quantity Theory

The Economic Order Quantity (EOQ) model is a pure economic model in classical inventory control theory. The model is designed to find the order quantity so as to minimize total cost under a deterministic setting. Arslan & Metin, (2013)revised the standard EOQ model to incorporate sustainability considerations to include environmental and social criteria in addition to the conventional economics. The authors proposed models for a number of different settings and analyze these revised models. Based on their analysis, they showed how these additional criteria can be appended to traditional cost accounting in order to address sustainability in supply chain management.

Teng *et al.*, (2013) discussed EOQ model for deteriorating items with timevarying demand and partial backlogging. However, owing to some objective and subjective factors, the parameters of EOQ are assumed to be random or fuzziness.Ouyang and Yao (2002) proposed a mixed inventory model with variable lead time, where demand is fuzzy variables. On the other hand, in some practical applications, the parameters take on the randomness and fuzziness simultaneously, and the decision maker needs to consider them in a formal framework.

## 2.3. Conceptual Framework

A conceptual framework can be defined as a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation .The schematic diagrams below will not only guide the study but will also show the interrelationship among the key variables in the study as illustrated in the following page.

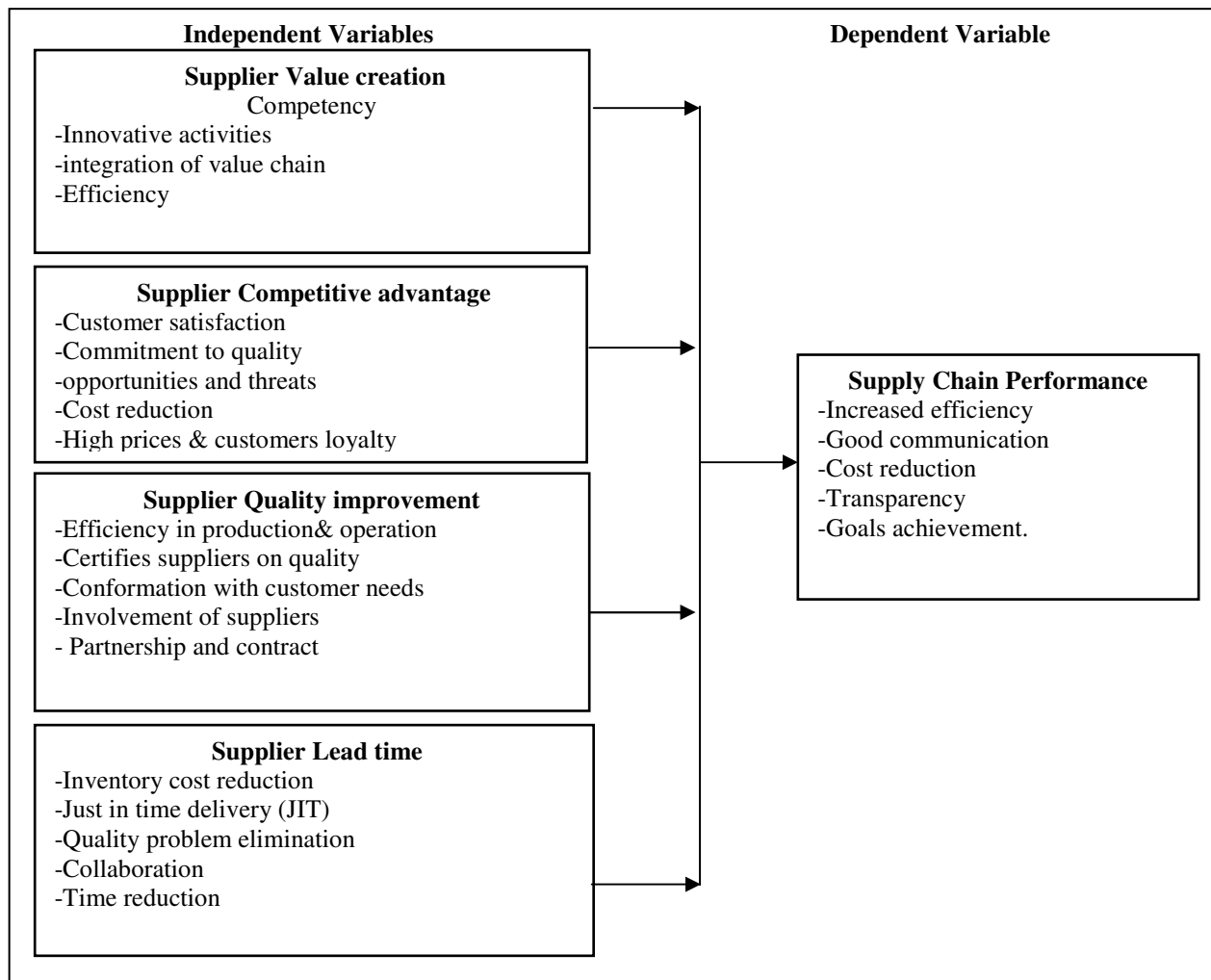


Figure 1: Conceptual Framework

Based on the review variables below, the following conceptual framework can be drawn

#### 2.4. Effects of Supplier Relationship Management

##### 2.4.1. Supplier Value Creation

Value created by a firm is the difference between its customers' willingness-to-pay and the opportunity cost of its suppliers. A company creates additional value either by increasing its customers' willingness-to-pay or by reducing its suppliers' opportunity costs. This value can be created by its internal resources and capabilities Bowman & Ambrosini, (2014) or through its inter organizational relationships by the relational resources. A supplier conducts business with a firm because it perceives certain benefits compared with other alternatives. If the cost can be taken to represent what the supplier receives that is the price charged to a customer, then the difference between this cost and the supplier's second-best alternative (opportunity cost) is the portion of value created by the buyer and captured by its supplier – the supplier's share.

Competitive advantage is the superior economic value creation rather than as superior performance (Rumelt, 2014; Preffer & Salancik, (2013). It is even possible to have competitive advantage but not superior performance if a firm is unable to appropriate the value that it has created Coff, (2014). Understanding and precisely defining economic value creation is critical in discussing competitive advantage. The most comprehensive definition of economic value that has influence throughout the current discussion: (Leeders, 2014) (Preffer & Salancik, 2013) is the definition proposed by Brandenburger & Stuart, (2013). Willingness-to-pay and opportunity costs are two subjective concepts based on the principle that every good has both a perceived value and an effective value Bowman & Ambrosini, (2014). A customer's willingness-to-pay can be defined as the maximum amount of money that the customer is prepared to pay for a product or service, including an aggregation of all perceived benefits. A firm sells its products for a price and incurs an economic cost. The difference between price and cost (including all components) is the value that is captured directly by the firm – the firm's share.

#### 2.4.2. Supplier Competitive Advantage

Competitive advantage is the ability of a firm to out-compete other firms in its industry. Preffer & Salancik, (2013) define competitive advantage as superior differentiation or lower costs by comparison with the marginal (breakeven) competitor in the product market. Competitive advantage or performance is defined as a manufacturer's attainment of common competitive priorities relative to its competition (Ahmad *et al.*, 2010). An enterprise has a competitive advantage if it is able to create more economic value than the marginal (breakeven) competitor. The economic value created by an enterprise in the course of providing a good or service is the difference between the perceived benefits gained by the purchasers of the good and the economic cost of the enterprise Preffer & Salancik, (2013). Superior value (what buyers are willing to pay) stems from offering lower prices than Competitive advantage or performance has been measured using different measures in the published literature. The most commonly cited measures were cost, quality, flexibility, and delivery (Cua *et al.*, 2011; McKone *et al.*, 2001; Ahmad *et al.*, 2010; Phan, *et.al.*(2011). In addition to these measures, on time product launch is considered" due to its importance in defining competitive performance in firms Phan, *et.al.*(2011) Firm measure cost performance in terms of unit cost of manufacturing; quality performance in terms of product capability and performance; flexibility performance in terms of flexibility to change product mix; and delivery performance in terms of on time delivery performance.

#### 2.4.3. Supplier Quality Improvement

Reeves & Bednar, (2013) suggest a four-way classification of quality definitions that incorporates excellence, value, conformance to specifications and meeting or exceeding customer requirements. Supplier Quality Improvement, De Toni and Nassimbeni (2000) indicated that the elimination of inspections of incoming materials can be only achieved by considerably improving the quality of suppliers. Improving supplier quality includes activities such as certifying suppliers on quality and providing technical assistance to them. Supplier quality improvement would result in improved quality and productivity, enhanced design of the parts, and reduced costs Lee, *et. al.*, (2011). In addition, incentives such as long range relationship and contracts as well as commitment are expected to encourage suppliers to improve the quality of their products as suppliers account for almost 30% of quality related problems(De-Toni, Nassimbeni, & Tonchia, 2013).

Flynn & Schroeder, (2014) emphasised the need to distinguish between internal quality performance in the plant (conformance to specification) and external quality performance in the marketplace (quality-in-use and customer satisfaction). Internal quality performance incorporates both design quality and conformance quality while external quality performance incorporates quality-in-use and customer value and satisfaction (Fujimoto, 2011). Fleischer, (2013). Furthermore, design is not only a cost driver; it is also recognised as a major determinant of quality because "quality is designed into the product ... and good design contributes to a firm's ability to develop and produce new products more quickly by minimising engineering changes which delay production. Thus design makes major contributions to the three primary outcomes of cost, quality and timeliness"(Fleischer, 2013).

#### 2.4.4. Supplier Lead Time

Lead time reduction is the amount of time that elapses between when a process starts and when it is completed. Lead time is examined closely in manufacturing, supply chain management and project management, as companies want to reduce the amount of time it takes to deliver products to the market. In business, lead time minimization is normally preferred. Burton (2000) indicated that suppliers account for approximately 80% of lead-time problems. In lean production environment, JIT purchasing requires the supplier firms to deliver frequent supplies in small lots. This would require perfect synchronization between the supplier and the buyer, which can be achieved by integrating their production planning and control systems(De-Toni, Nassimbeni, & Tonchia, 2013)

Heikkila, (2012) pointed to reducing lead time as an essential approach to create responsive supply chain and avoid uncertainty. Hernandez (2013) pointed to the crucial role of reducing lead time on the ability of the supplier to become lean and responsive. He further indicated that supplier lead time reduction minimizes the potential problem of shifting inventories to the supplier firm and eliminates quality problems associated with holding buffer inventories. (Larson & Kulchitsky, 2013) empirically found that lead time performance was affected by information quality and close relationships between the buying firm and the supplier firm. (De-Toni, Nassimbeni, & Tonchia, 2013) pointed to the importance of the logistic link between the buyer and supplier, particularly under JIT system, where suppliers have to completely respond to the requirements of the buyer in terms of quality and quantity. They argued that such link would be enhanced by small lot size and coordinated.

#### 2.4.5. Supply Chain Performance

Supply Chain Performance is defined as the multiple measures of performance developed by the organization to gauge the ability of a supply chain to meet an organization's long term and short-term objectives. Performance measurement is the process of quantifying the effectiveness and efficiency of action (Neely *et al.*, 2005). The instrument that regularly supports the performance measurement process is referred to as performance measurement supply chain (PMS). A PMS maintains various metrics (performance measures) that are used for different purposes like supporting decision making and management control, evaluating the results, motivating people, stimulating learning, improving coordination and communication Neely, *et. al.*, (2013). A performance measure is information delivered to the management function, evaluating the efficiency and the effectiveness of a process, resource or an outcome.

According to Neely, *et. al.*, (2013) organizations of all sizes are realizing that they no longer have complete control over their market success. This is because they rely heavily on the performance of their supply chain trading partners. Many large organizations are now insisting that their small and medium industrial suppliers help them improve supply chain cost, reliability and responsiveness. Beamon (2010) strongly implied that supply chain improvements will not only improve internal performance, but will also create benefits that

will ripple through to customers and partners as well. Cost savings through reduced inventory levels, expediting, fulfillment and premium freight costs could allow a company to provide more favorable prices or terms to customers. Likewise, effective planning and execution can help companies and their customers adapt to the market's demand shifts. When the company can purchase, produce and distribute the right products to the right channels in the right quantities at the right time, both supplier and customer will increase revenue capture by channel and region.

### 2.5. Empirical Review

Numerous studies have been done on SRM. Samuel (2014) conducted an empirical study on the effect of buyer-supplier partnership on better service delivery within non-governmental organizations involved in humanitarian work, taking the case of World Vision International. Cheung (2011) studied relationship management as a strategy for supply chain engagement in the civil engineering construction industry in Queensland, Australia. (Paiva, 2013) analyzed the influence of the buyer-supplier relationship continuity on service performance among companies that are users of international maritime transport belonging to the machinery and food industries.

(Mettler & Rohner, 2014) studied supplier relationship management in the context of health care by illustrating the impact of the implementation of SRM principles in a leading Swiss hospital. Locally, (Ndambuki, 2014) studied the relationship between supply chain integration and supply chain performance of international humanitarian organizations in Kenya. In their study, (Ondieki & Oteki, 2014) assessed the effect of supplier relationship on the effectiveness of supply chain management practices.

(Chen & Paulraj, 2014) used long-term relationship, cross-functional teams, supplier base reduction, and supplier involvement.

However, there is no study that has been done focused on supplier relationship management supply chain performance at Bamburi cement limited Mombasa, despite the challenges they get in getting supplies on time due to financing and other constraints, a gap that the present study aims to fill by studying effects supplier relationship management on supply chain performance in firms at Bamburi Cement limited, Mombasa.

### 2.6. Critique of the Existing Literature Relevant to the Study

Supplier Relationship Management has been shown to have an impact on performance of firms (Du Plessis *et al.* 2011) but majority of the studies have concentrated on developed countries earlier research by Clark (2006) stated that, in the engineering phase of a product development, extreme supplier involvement creates advantages in terms of lead times, costs and quality. (McGinnis & Vallopra, 2013) demonstrated that including suppliers in the value creation procedure of a purchasing firm can be a beneficial alternative, however one that is hard to accomplish by application. They argued that purchasing and supplier involvement can contribute to process development or improvement, especially in manufacturing industries.

The insight gained from the literature review can be interpreted in the light of number of criticisms. First there is limited study that has been done in aspects of SRM in supply chain performance, in less developed countries particularly in Kenya to address supplier relationship management issues. These points out that there urgency for understanding supplier relationship management in supply chain performance and implementation and usage in developing countries, since supplier relationship is still in its early stage in this country and faces a number of challenges related to organization cultures, economic and infrastructure issues.

Second many companies still practice adversarial relationship and end up losing the customers and they do not have partnership with suppliers. To achieve performance objectives purchasing organizations have to be demanding of their suppliers and pressure them to reduce cost (Henke *et al.*, 2008). However, Emiliani (2010) is of the opposing view that purchasing officials should not concentrate so much on cost reduction but nurture close relationship with suppliers. Yet, unmanaged closer relationships with suppliers can give much room to suppliers to inflate the prices of goods supplied and this can negatively affect the purchasing organization in the long run. Similarly, it is therefore important to carry out a research on effects of Supplier relationship Management on supply chain performance.

### 2.7. Research Gaps

According to shin *et al.* (2000) indicated that there is a need for empirical studies concerning buyer-supplier relationships as most of the existing studies are theoretical and conceptual with obvious lack of empirical evidence. In addition to that, the existing literature provides some contradicting results concerning the influence of SRM on competitive performance of manufacturing firms. The literature review indicates that limited research has been carried out effects of on supplier relationship management on supply chain performance. Maintaining supplier relationships often proves to be difficult and challenging. According to Cheng (2009), is because the supplier relationships comprise a large scope of complex activities, including establishing and developing strategic relationships. Again supplier relationships are innately uncertain due to the changing business environment, different interests and opportunistic behaviours. Ryu *et al* (2007) are of the view that performance of a supplier can be the basis for trust.

Therefore previous performance of a supplier can be a panacea for establishing close relationships and may reflect the supplier's reputation. This implies that the track record of a supplier could lead to a low or high reputation. The reputation of a supplier could negatively affect a purchasing organization in two ways. When the reputation of a supplier is too low, this could lead to the supply of low quality materials and a number of other inadequate standards and too high reputation may lead to a situation where the supplier attempts to control the relationship (Pidduck, 2006). It's therefore important to carry out a research on effects of on supplier relationship management on supply chain performance.



### 2.8. Summary of Literature Review

Organizations that practice SRM end up improving their supply chain performance. Continuous maintenance of a good relationship with your suppliers will protect an organization from the problems of quality, increase efficiency, reduce lead time, value creation, and competitive advantage, hence will lead to improvement of performance and increase of profit. This applies to all organizations, whether commercial or public. Without SRM, operations will slow down or even stop when business is booming because suppliers will tend to prioritize customers who have maintained a good relationship with them. With SRM, the supplier is made part of the organization and will always keep that particular organization in mind. Organizations should develop and maintain long term relationships with suppliers by sharing information, developing trust, and maintaining good communication in order to obtain timely delivery of goods, improvement of quality that satisfy customers, competitive advantage and value creation.

## 3. Research Methodology

### 3.1. Introduction

This chapter presents the research methodology that was applied in conducting the study. It discusses the research design, target population, data collection procedures and research instrument as well as data analysis techniques.

### 3.2. Research Design

Research design is defined as a blueprint for collection measurement and analysis of data (Kothari & Gang, 2014), (Cooper & Schinder, 2013) explains that research design is a frame for specifying relationship among the study. The researcher used descriptive research design. Descriptive research design depicts the participant in accurate way. This design was appropriate because it is considered suitable for gathering qualitative information and generating appropriate conclusions with respect to research questions (Mugenda & Mugenda, 2008). This is the most suitable design because data was be collected from one Organization and hence its adoption for this study.

### 3.3. Target Population

The actual population was 185 of Bamburi Cement, Mombasa employees who are reasonable and have wider level of experiences in Bamburi Cement. According Wanjau *et. al.* (2012) target population is the specific population about which information is desired. The target population was Procurement department, Logistics department, Quality department and Maintenance department.

### 3.4. Sampling Frame

Sampling frame is a complete list of all members of the population of that research wish to study. According to Mugenda & Mugenda (2014) "a representative sample size is the one 10%-30% of population. The research will take 30% of Bamburi cement limited of the four departments of Bamburi cement limited.

### 3.5. Sampling Size and Sampling Technique

Stratified sampling method was used to obtain a sample of respondents. This technique was ideal because it gave the respondents at all levels in the organization an equal opportunity to participate in the study without bias (Kothari & Gang, 2014). This method was justifiable for this research because it allowed chance for all staff members from all levels within the department to participate equally as they are selected randomly from each sub department with whole organization. The choices for this technique enable the researcher to derive detailed data at an affordable cost in terms, finances and human resource, Mugenda & Mugenda (2014).

### 3.6. Research Instruments

Research Instruments refers to data collection tools used by researcher to collect data from a research sample (Creswell, 2012). The researcher used structured questionnaires to collect data from Bamburi cement respondents. Questionnaires were convenient for the task in that they can be easily and conveniently administered with the study sample. The use of questionnaire is cost effective, less time consuming as compared to the use of interview. Data collected through the use of well-structured questionnaire is easy to analyze.

### 3.7. Data Collection Procedure

According to Kumar, (2005), it is considered unethical to collect information without the knowledge of participants and their expressed willingness and informed consent. Therefore informed consent implies that subjects were adequately aware of the type information the researcher want from them, why the information is being sought, how they were expected to participate in the study and the research directly or indirectly affect them. It is important that the consent should be voluntary and without pressure of any kind. The researcher obtained introductory letter from college to seek to collect data from Bamburi cement staff. The researcher administered the instrument personally before collecting data. The researcher then identified the specific respondents and issued them with questionnaires which they filled at their convenience but within the research schedule. The researcher also used primary and secondary data. Structured questionnaires was used to collect primary data from respondents and Secondary data was be obtained from related materials in the internet, procurement journals, periodicals and books relevant to the study. The questionnaire was self-administered to the respondents and was be collected after three days for analysis.

3.8. Data Processing and Analysis

Data processing and analysis was collected synthesized and presented using tables for ease of understanding and narration .Kothari (2009) defines analysis as the computation of certain indices or measures along with searching for patterns of relations that exist among data groups. It is made up of qualitative statistics; analyzing information in a systematic manner in order to come to a useful conclusion and recommendation. Descriptive statistics such as mean and standard deviation was used to present the various characteristics for data sets, supported by Cooper & Schindler (2003).The data collected was sorted and coded then entered into the Statistical Packages for Social Sciences (SPSS) version 22. Descriptive statistics was used to show the relationship between Supplier Relationship Management and supply chain performance. The findings are presented in tables. Regression analysis was used to establish the extent to which the four independent variables; value creation, competitive advantage, quality improvement, and lead time reduction.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

Where:

Y = Supply Chain Performance (quality, dependability, flexibility and cost)

$\beta_0$  = constant or y-intercept

$\beta_1 - \beta_5$  = regression coefficients

X1 = Supplier Value creation

X2 = Supplier Competitive advantage

X3 = Supplier Quality improvement

X4=Supplier Lead time

$\epsilon$ = Error term

$\beta_1$  = measures the rate of change in Supply Chain Performance as a result of a unit change in Supplier value creation.

$\beta_2$ = measures the rate of change in Supply Chain Performance as a result of a unit change in Supplier Competitive advantage

$\beta_3$ = measures the rate of change in Supply Chain Performance as a result of a unit change in Supplier Quality improvement

$\beta_4$ = measures the rate of change in Supply Chain Performance as a result of a unit change in Supplier Lead time.

4. Data Analysis, Results and Discussion

4.1. Introduction

This chapter presents analysis of the data on the effects of supplier relationship management on supply chain performance at Bamburi Cement Limited in Mombasa County, Kenya. The chapter also provides the major findings and results of the study and discusses those findings and results against the literature reviewed and study objectives. The data is mainly presented in frequency tables, means and standard deviation.

4.2. Response Rate

The study targeted 56 employees of Bamburi cement limited in Mombasa County, Kenya. From the study, 45 out of the 56 sample respondents filled-in and returned the questionnaires making a response rate of 80.4 % as per Table 1 below.

	Frequency	Percentage
Respondent	45	80.4
Non-respondent	11	19.6
<b>Total</b>	<b>56</b>	<b>100</b>

Table 1: Questionnaire Return Rate

According to (Mugenda & Mugenda, 2008) a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent; therefore, this response rate was adequate for analysis and reporting.

4.3. Demographic Data

The background information was gathered based on what was in practice before, position held, length of time in the position and department working in.

4.3.1. Practice of Supplier Relationship Management

The study sought to establish the practice of supplier relationship management at Bamburi cement limited. The study results revealed that 60% were of the opinion that practice of supplier relationship management first was introduced less than 10 years and 40% 10 years of more with a mean score of 1.40 and a standard deviation of 0.495 as shown in Table 2 below. These shows that practice of supplier relationship management was first introduced less than 10 years.

When was the practice of Supplier relationship management first introduced?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 10 Years	27	60.0	60.0	60.0
	10 years or more	18	40.0	40.0	100.0
	Total	45	100.0	100.0	

Table 2: Practice of Supplier Relationship Management

#### 4.3.2. Position Held

The study sought to establish the position held by respondents. The study results revealed that 44.4% were in senior management, 24.4% were quality managers, 20% were logistics officers and 11.2% were maintenance officers with a mean score of 1.98 and a standard deviation of 1.055. These shows that majority of respondents who participated in the study were senior procurement managers as shown in Table 3 below.

Position in the organization		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Senior Procurement Manager	20	44.4	44.4	44.4
	Quality Manager	11	24.4	24.4	68.9
	Logistics Officer	9	20.0	20.0	88.9
	Maintenance Manager	5	11.1	11.1	100.0
	Total	45	100.0	100.0	

Table 3: Position Held in the Organization

#### 4.3.3. Working Experience in the Department

The study sought to establish the working experience of respondents. The study results revealed that 31.1% have experience of less than 5 years, 42.2% between 5-10 years, 20% between 11-15 years and above 15 years were 6.7% with a mean score of 2.02 and a standard deviation of 0.892. These show that majority of respondents have an experience of between 5-10 years as shown in figure 4.5 below

Work experience in the position		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	14	31.1	31.1	31.1
	Between 5-10 Years	19	42.2	42.2	73.3
	Between 11-15 Years	9	20.0	20.0	93.3
	Above 15 Years	3	6.7	6.7	100.0
	Total	45	100.0	100.0	

Table 4: Work Experience

#### 4.3.4. Department Working In

The study sought to establish the departments in which the respondents work in. The study results revealed that 44.4% were in the procurement department, 24.4% were in logistics department, 17.8% in quality department and 13.4% were in maintenance department with a mean score of 2.00 and a standard deviation of 1.087. These shows that the majority who participated in the study were staff of the procurement department as shown in Table 5 below.

Which department are you?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Procurement department	20	44.4	44.4	44.4
	Logistics Department	11	24.4	24.4	68.9
	Quality department	8	17.8	17.8	86.7
	Maintenance department	6	13.3	13.3	100.0
	Total	45	100.0	100.0	

Table 5: Department working in

#### 4.4. Analysis of Objectives

In the research analysis the researcher used a tool rating scale of 5 to 1; where 5 was the highest and 1 the lowest. Opinions given by the respondents were rated as follows, 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree. The analysis for mean, standard deviation and coefficient of variation were based on this rating scale.

##### 4.4.1. Supplier Value Creation

The creation of customer value is considered a precursor to customer satisfaction and loyalty) and the central means of gaining competitive advantage in the markets ((Woodall 2013)

<b>Descriptive Statistics</b>			
	N	Mean	Std. Deviation
Value creation has led to increase of market share & competency	45	4.27	.837
My organization has put in place measures for effective prices to increase profit	45	4.02	.812
My organization engages in innovative activities that has led creation of value, derived from the product and the costs of producing it	45	4.18	.716
Efficient management in our organization has led to value creation and attainment of companies expectations	45	3.60	1.268
Integration of value chain, supply chain and competitive advantage has led to value creation	45	3.84	1.167
Valid N (listwise)	45		

Table 6: Supplier Value Creation

The first objective of the study was to establish the effect of value creation on supply chain performance in Bamburi cement limited Mombasa. Respondents were required to respond to set questions related to value creation and give their response. The opinion in agreement that value creation has led to increase of market share and competency had a mean score of 4.27 and a standard deviation of 0.837. The opinion statement in agreement that my organization has put in place measure for effective prices to increase profit had a mean score of 4.02 and a standard deviation of 0.812. The opinion statement in agreement that my organization engages in innovative activities that has led creation of value, derived from the product and the costs of producing it had a mean score of 4.18 and a standard deviation of 0.716. The opinion statement that efficient management in our organization has led to value creation and attainment of companies expectations had a mean score of 3.60 and a standard deviation of 1.268. The opinion statement that integration of value chain, supply chain and competitive advantage has led to value chain had a mean score of 3.84 and a standard deviation of 1.167. Value creation and competitive advantage are key concepts in the business strategy field, although there is still no consensus on their definition and boundaries (Lepak; smith; Taylor, 2007).

#### 4.4.2. Supplier Competitive Advantage

The economic value created by an enterprise in the course of providing a good or service is the difference between the perceived benefits gained by the purchasers of the good and the economic cost of the enterprise (Peteraf & Barney, 2003).

<b>Descriptive Statistics</b>			
	N	Mean	Std. Deviation
There is understanding and closeness between customers and organization which made the firm have advantage over their competitors	45	4.04	1.43
My organization ensures a speedy reaction to competitive opportunities and threats.	45	3.62	1.230
My organization understands customers which in turn creates competitive advantage and benefit from higher prices and loyalty of customers	45	3.76	1.190
Valid N (listwise)	45		

Table 7: Competitive Advantage

The second objective of the study was to establish the effect of competitive advantage on supply chain performance in Bamburi cement limited Mombasa. Respondents were required to respond to set questions related to competitive advantage and give their response. The opinion statement that there is understanding and closeness between customers and organization which made the firm have advantage over their competitors had a mean score of 4.04 and a standard deviation of 1.413. The opinion that my organization ensures a commitment to quality of products had a mean score 3.93 and a standard deviation of 1.095. The opinion statement that my organization ensures a speedy reaction to competitive opportunities and threats had a mean score of 3.62 and a standard deviation of 1.230. The opinion statement that my organization understands customers which in turn creates competitive advantage and benefits from higher prices and loyalty of customers had a mean score of 3.76 and a standard deviation of 1.190. The opinion statement that high capacity utilization of products by customers has helped to reduce costs had a mean score of 3.71 and a standard deviation of 1.121.

#### 4.4.3. Supplier Quality Improvement

Quality is designed into the product and good design contributes to a firm's ability to develop and produce new products more quickly

Descriptive Statistics			
	N	Mean	Std Deviation
Quality improvement has led to efficiency of production operation	45	3.82	1.029
My company continuously certifies suppliers on quality and provides technical assistance to suppliers.	45	3.31	1.362
My company conforms with customers requirement in order to improve quality of products	45	3.80	1.272
My company involves suppliers in specification of materials	45	3.76	1.401
Valid N (listwise)	45		

Table 8: Supplier Quality Improvement

The third objective of the study was to establish the effect of quality improvement on supply chain performance in Bamburi cement limited Mombasa. Respondents were required to respond to set questions related to quality improvement and give their response. The opinion statement that quality improvement has led to efficiency of production operation had a mean score of 3.82 and a standard deviation of 1.029. The opinion statement that my company continuously certifies suppliers on quality and provides technical assistance to suppliers had a mean score of 3.32 and a standard deviation of 1.362. The opinion statement in agreement that long range relationship and contracts to encourage suppliers to improve the quality of their products had a mean score of 4.04 and a standard deviation of 1.381. The opinion statement that that my company conforms to customer's requirement in order to improve quality of products had a mean score of 3.80 and a standard deviation of 1.272. The opinion statement that my company involves suppliers in specification of materials had a mean score of 3.76 and a standard deviation of 1.401.

#### 4.4.4. Supplier Lead Time

Supplier lead time minimizes the potential problem of shifting inventories to the supplier firm and eliminates quality problems associated with holding buffer inventories.

Descriptive Statistics			
	N	Mean	Std. Deviation
Inventory related cost has been reduced through lead time	45	4.11	1.210
My organization has managed lead time reduction by frequent delivery of goods by suppliers in small lots by suppliers	45	3.67	1.414
Lead time reduction has minimized shifting inventories to the supplier firm	45	3.67	1.430
Lead time reduction has eliminated quality problems associated with holding buffer inventories	45	3.89	1.449
Close relationships between the buying firm, and the supplier firm has led to led time reduction	45	3.84	1.331
Valid N (listwise)	45		

Table 9: Supplier Lead Time Reduction

The fourth objective of the study was to establish the effect of lead time reduction on supply chain performance in Bamburi cement limited Mombasa. Respondents were required to respond to set questions related to lead time reduction and give their response. The opinion statement that inventory cost has been reduced through lead time had a mean score of 4.11 and a standard deviation of 1.210. The opinion statement that my organization has managed lead time reduction by frequent delivery of goods by suppliers in small lots by suppliers had a mean score 3.67 and a standard deviation of 1.414. The opinion statement that leads time reduction has minimized shifting inventories to the supplier firm had a mean score of 3.67 and a standard deviation of 1.430. The opinion statement that lead time reduction has eliminated quality problems associated with holding buffer inventories had a mean score of 3.89 and a standard deviation of 1.449. The opinion statement that close relationship between the buying firm, and the supplier firm has led to lead time reduction had a mean score of 3.84 and a standard deviation of 1.331. Heikkila (2002) pointed to reducing lead time as an essential approach to create responsive supply chain and avoid uncertainty.

#### 4.4.5. Supply Chain Performance

A Supply chain performance measure is information delivered to the management function, evaluating the efficiency and the effectiveness of a process, resource or an outcome.

Descriptive Statistics			
	N	Mean	Std. Deviation
SRM has led to transparency and trust between supplier and the company	45	3.82	1.353
SRM has led to increased efficiency and good communication between suppliers and organization	45	3.67	.953
There is reduced cost and increased interaction which has led to less issues of poor performance	45	4.20	.869
SRM has enabled both organization and supplier to benefit from fluctuations in the market and pricing.	45	3.89	1.210
There is a continual improvement for both products and services to meet customer's needs and company's expectation	45	3.69	1.427
Valid N (listwise)	45		

Table 10: Supply Chain Performance

The opinion statement that SRM led to transparency and trust between supplier and the company had a mean score of 3.82 and a standard deviation of 1.353. The opinion statement that SRM has led to increased efficiency and good communication between suppliers and organization had a mean score of 3.67 and a standard deviation of 0.953. The opinion statement that there is a reduced cost and increased interaction which has led to less issues of poor performance had a mean score of 4.20 and a standard deviation of 0.869. The opinion statement that SRM has enabled both organization and supplier to benefit from fluctuations in the market and pricing had a mean score of 3.89 and a standard deviation of 1.210. The opinion statement that there is a continual improvement for both products and services to meet customer's needs and company's expectation had a mean score of 3.69 and a standard deviation of 1.427. Beamon (2000) strongly implied that supply chain improvements will not only improve internal performance, but will also create benefits that will ripple through to customers and partners as well.

#### 4.5. Correlation Analysis

To establish the relationship between the independent variables and the dependent variable the study conducted correlation analysis which involved coefficient of correlation and coefficient of determination.

##### 4.5.1. Coefficient of Correlation

In trying to show the relationship between the study variables and their findings, the study used the Karl Pearson's coefficient of correlation ( $r$ ). This is as shown in Table 11 below. According to the findings, it was clear that there was a positive correlation between the independent variables, value creation, competitive advantage, quality improvement and lead time. The analysis indicates the coefficient of correlation,  $r$  equal to 0.309, 0.595, 0.684 and 0.316 for value creation, competitive advantage, quality improvement and lead time reduction. This indicates positive relationship between the independent variable namely value creation, competitive advantage, quality improvement and lead time reductions and the dependent variable supply chain performance.

Correlations						
		Value Creation	Competitive Advantage	Quality Improvement	Lead Time	SCP
Value Creation	Pearson Correlation	1				
	N	45				
Competitive Advantage	Pearson Correlation	.149	1			
	N	45	45			
Quality Improvement	Pearson Correlation	.011	.254	1		
	N	45	45	45		
Lead Time	Pearson Correlation	.217	.136	.503**	1	
	N	45	45	45	45	
Supplier Chain Performance	Pearson Correlation	.309*	.595**	.684**	.316*	1
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

Table 11: Pearson Correlation

##### 4.5.2. Coefficient of Determination

Table 12 showed that the coefficient of determination was 73.2%. Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (Supply chain performance) that is explained by all independent variables. From the findings this meant that 73.2% of project implementation is attributed to combination of the four independent factors investigated in this study.

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.855 <sup>a</sup>	.732	.705	1.31798	.732	27.246	4	40	.000
a. Predictors: (Constant), Lead Time, Competitive Advantage, Value Creation, Quality Improvement									

Table 12: Coefficient of determination ( $R^2$ )

This means that 73.2 % of the relationship is explained by the identified four factors namely Supplier value creation, Supplier competitive advantage, Supplier quality improvement and supplier lead time. The rest 26.8% is explained by other factors in the Supply chain industry not studied in this research. In summary the three factors studied namely, Supplier value creation, Supplier competitive

advantage, Supplier quality improvement and Supplier lead time explains or determines 73.2% of the relationship while the rest 26.8% is explained or determined by other factors.

#### 4.6. Regression Analysis

##### 4.6.1. Analysis of Variance (ANOVA)

The study used ANOVA to establish the significance of the regression model. In testing the significance level, the statistical significance was considered significant if the p-value was less or equal to 0.05. The significance of the regression model is as per Table 13 below with P-value of 0.00 which is less than 0.05. This indicates that the regression model is statistically significant in predicting factors affecting supply chain performance in Bamburi cement limited Mombasa.

Basing the confidence level at 95% the analysis indicates high reliability of the results obtained. The overall Anova results indicates that the model was significant at  $F = 27.246$ ,  $p = 0.000$ .

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	189.317	4	47.329	27.246	.000 <sup>b</sup>
	Residual	69.483	40	1.737		
	Total	258.800	44			
a. Dependent Variable: Supplier Chain Performance						
b. Predictors: (Constant), Supplier Lead Time, Supplier Competitive Advantage, Supplier Value Creation, Supplier Quality Improvement						

Table 13: ANOVA

##### 4.6.2. Multiple Regression Analysis

The researcher conducted a multiple regression analysis as shown in Table 14 so as to determine the relationship between supply chain performance and the four variables investigated in this study.

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.815	4.137		2.614	.000
	Supplier Value Creation	.397	.120	.283	3.300	.002
	Supplier Competitive Advantage	.424	.090	.405	4.724	.000
	Supplier Quality Improvement	.658	.100	.647	6.564	.000
	Supplier Lead Time	.092	.072	.125	1.278	.000
a. Dependent Variable: Supplier Chain Performance						

Table 14: Multiple Regression Analysis

The regression equation was:

$$Y = 10.815 + 0.397X_1 + 0.424X_2 + 0.658X_3 + 0.092X_4$$

Where;

Y = the dependent variable (Supply chain Performance)

X<sub>1</sub> = Supplier Value Creation

X<sub>2</sub> = Supplier Competitive Advantage

X<sub>3</sub> = Supplier Quality Improvement

X<sub>4</sub> = Supplier Lead Time

The regression equation above has established that taking all factors into account (Value creation, competitive advantage, quality improvement and Lead Time reduction) constant at zero supply chain performance will be 10.815. The findings presented also shows that taking all other independent variables at zero, a unit increase in value creation will lead to a 0.397 increase in the scores of supply chain performance; a unit increase in competitive advantage will lead to a 0.424 increase in supply chain performance; a unit increase in quality improvement will lead to a 0.658 increase in the scores of supply chain performance; a unit increase in lead time reduction will lead to 0.092 increase in the score of supply chain performance. This therefore implies that all the four variables have a positive relationship with supply chain performance with quality improvement contributing most to the dependent variable.

## 5. Summary of the Findings, Conclusion and Recommendations

### 5.1. Introduction

The chapter provides the summary of the findings from chapter four, and it also gives the conclusions and recommendations of the study based on the objectives of the study. The chapter finally presents the limitations of the study and suggestions for further studies and research.

### 5.2. Summary of the Findings

The objective of this study was to examine the effects of supplier relationship management on supply chain performance at Bamburi cement limited, Mombasa. The study was conducted on 45 employees of Bamburi cement limited, Mombasa out of 56 employees that constituted the sample size. To collect data the researcher used a structured questionnaire that was personally administered to the respondents. The questionnaire constituted 25 items. The respondents were the employees of Bamburi cement limited, Mombasa. In this study, data was analyzed using frequencies, mean scores, standard deviations, percentage, Correlation and Regression analysis.

From the study the practice of supplier relationship management was first introduced at Bamburi cement limited in less than 10 years. Majority of respondents were senior managers having a working experience of between 5-10 years working in the procurement department.

The analysis indicates the coefficient of correlation,  $r$  equal to 0.309, 0.595, 0.684 and 0.316 for value creation, competitive advantage, quality improvement and lead time reduction. This indicates positive relationship between the independent variable namely value creation, competitive advantage, quality improvement and lead time reductions and the dependent variable supply chain performance.

The findings on regression also shows that taking all other independent variables at zero, a unit increase in value creation will lead to a 0.397 increase in the scores of supply chain performance; a unit increase in competitive advantage will lead to a 0.424 increase in supply chain performance; a unit increase in quality improvement will lead to a 0.658 increase in the scores of supply chain performance; a unit increase in lead time reduction will lead to 0.092 increase in the score of supply chain performance. This therefore implies that all the four variables have a positive relationship with supply chain performance with quality improvement contributing most to the dependent variable.

#### 5.2.1. Supplier Value Creation

On value creation the study established that value creation has led to increase of market shares and competency. The study further established that Bamburi cement limited has put in place measures for effective prices to increase profits and that it engages in innovative activities that has led to creation of value, derived from the product and the costs of producing it.

#### 5.2.2. Supplier Competitive Advantage

On competitive advantage the study established that there is an understanding and closeness between customers and organization which made the firm to have an advantage over their competitors. Further the study established that Bamburi cement limited has committed to quality of the product that helps them to have competitive advantages over competitors.

#### 5.2.3. Supplier Quality Improvement

On quality improvement, the study established that quality improvement has led to efficiency of production and continuously certifies suppliers on quality and provides technical assistance to suppliers. It further revealed that long range relationship and contract to encourage suppliers to improve quality of their products.

#### 5.2.4. Supplier Lead Time

The study established that inventory related costs has been reduced through lead time and that lead time reduction has eliminated quality problems associated with holding buffer inventories. Further close relationship between the buying firm, and the supplier firm has led to lead time reduction.

### 5.3. Conclusions

1. From the research findings, the study concluded all the independent variables studied have significant effect on supply chain performance as indicated by the strong coefficient of correlation and a p-value which is less than 0.05. The overall effect of the analyzed factors was very high as indicated by the coefficient of determination. The overall P-value of 0.00 which is less than 0.05 (5%) is an indication of relevance of the studied variables, significant at the calculated 95% level of significance.

2. This implies that the studied independent variables namely value creation, competitive advantage; quality improvement and lead time reduction have significant effect on supply chain performance in Bamburi cement in Mombasa. Bamburi Cement Limited should integrate innovation, quality service delivery, and value chain adoption, timely delivery of goods to customers,

3. Bamburi Cement Limited should build relevant competitive advantages and also identify, utilize and nurture its synergies in order to maximize on profitability by maintaining good relationship with suppliers.



#### 5.4. Recommendations

The study recommended that:

1. Market entry by new independent cement producers bodes well for competition with Bamburi cement limited, therefore Bamburi should collaborate with suppliers in order to identify opportunities and threats that can hinder the company from maintaining its position as best in the market, continue creating value to their supply chain processes and products and making profit and maintain a relationship but hold customers hostage in order to prevent them from defecting by meeting their needs through good relationship with suppliers.
2. Bamburi cement limited should endeavour to have a competitive advantage against their competition due to customers having increasing choice and the competitive nature of market, to create innovative switching barriers to retain customers and hence maintain profits.
3. Bamburi Cement Limited should share ideas with suppliers to meet customers' requirements.
4. The company should make use of new programs and technology in managing customers to allow segmentation that provides managers with information in order to create strategies that will target particular customer. Technology will therefore play an increasingly important role for management and retention strategies due to competition in many businesses today.

#### 5.5. Suggestion for Further Studies

This study focused on the effects of supplier relationship management on supply chain performance at Bamburi Cement Limited in Mombasa. Since only 73.2% of results were explained by the independent variables in this study, it is recommended that a study be carried out on other factors that affect supply chain performance, specifically, a study should be carried out in order to pick out other variables not covered in this study. The research should also be done in other industries and the results compared so as to ascertain whether there is consistency on effects of supplier relationship management on supply chain performance in Kenya.

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