

**LEAN AND AGILE PROCUREMENT STRATEGIES AND
PERFORMANCE AT EAST AFRICA BREWERIES
LIMITED**

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**A Research Project Presented in Partial fulfillment of the Requirements for The
Award of The Degree of Master of Business Administration, School Of Business,
University Of Nairobi**

2017

DECLARATION

This research project is my original work and has not been presented in any other university or institution of higher learning for examination or academic purposes.

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ACKNOWLEDGEMENTS

I am indeed grateful to a number of people who have given their immense support in the process of undertaking this project. First and foremost to God The Almighty for His mercies endures forever. His grace has been sufficient throughout my study period. To my mother Mrs. Margaret Anyiru for the motherly support and most important the spiritual nourishment.

To my beloved wife Mrs. Linda Alusiola, I don't take it for granted, you were instrumental in my academic studies, you were always by my sides comforting and encouraging me. I remember your sweet words "you have always been a dedicated spouse, why not, you will make it dear". Both mum and wife have been a great inspiration in my life, I thank you both for your financial support and your kind words. I will forever be indebted to you for bringing me up to be a person who appreciates and values education. I would never have been where I am without your prayers, support and creating an enabling environment for my studies.

Mr. Onserio Nyamwange, my supervisor, your kindness, support and willingness to guide me has been profound, it goes without saying that May God's glare always shine upon you and your family as you journey to transform more life's ahead.

I will also thank and appreciate the entire MBA fraternity for their hard work and support.

Finally I would like to appreciate East Africa Breweries Limited, for their support and creating enabling environment during my collecting data.

God bless you all.

DEDICATION

This project is dedicated to my beloved wife Linda Alusiola Ogema and both my children Lexxie Ogema and Loryan Ogema

ABSTRACT

The study objectives were to establish lean and agile procurement activities adopted in East African Breweries and the second objective was of the study to establish the connection that exist between lean and agile procurement and performance at East African Breweries. The study was anchored on three theories that is transaction cost theory, resource dependence theory and the institutional theory. The study was a case study. The target population of this study comprised the staff working in East African Breweries headquarters. The study adopted stratified random sampling to select 20% of the staff in different departments at EABL. The study sample size was 38 team leaders. Both open ended and close ended questionnaire were used as data collection instrument. The study adopted drop and peak method. The data collected was analyzed using SPSS version 22. Descriptive statistics for the quantitative data included frequencies, percentages, mean scores and standard deviation. The relationship between independent variables and dependent variable was established using a multiple regression analysis. The study results were presented using charts and tables. The study found that East African Breweries have greatly implemented supplier relationship, lean suppliers practices, lean product management practices, Just in Time, lean thinking, lean warehousing practices and Kanban Systems with E-Procurement being been implemented in a moderate extent. The study concluded that waste management practices was greatly related to the performance at East Africa breweries limited Kenya, followed by demand management practices then behavioral practices while standardization practices had the least effect on the performance at East Africa breweries limited Kenya. The study recommends the use of standardization, that the key procurement actors should come up with viable ways of managing procurement process and that East Africa Breweries Limited should work on having dependable suppliers whose delivery timetable are practical and within its requirements.

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ABBREVIATIONS AND ACRONYMS

| | | |
|--------------|---|---|
| EABL | - | East African Breweries Limited |
| EABLi | - | East Africa breweries international |
| EAML | - | East Africa Maltings Ltd |
| JIT | - | Just In Time |
| KBL | - | Kenya Breweries Ltd |
| RDT | - | Resource Dependence Theory |
| ROCE | - | Return On Capital Employed |
| ROI | - | Return On Investment |
| SC | - | Supply Chain |
| SCM | - | Supply Chain Management |
| SPSS | - | Statistical Package for Social Sciences |
| TQM | - | Total Quality Management |
| UBL | - | Uganda Breweries Ltd |
| UK | - | United Kingdom |

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In current world, companies have come up with a business strategy that has enabled them to be more competitive against their business competitors. Lambert, (2012) argued that the competitive strategy is all about attracting the more customers towards by their products. The general aim of company's supply chain department is to ensure that the company remains more competitive on market. Harland, (2012) argued that the relationship between market competitive advantage and Supply Chain Management (SCM) are openly related. Many companies have focused on more improved and developed supply chain processes with an aim of ensuring that their customers are more satisfied while at the same time the company makes profit. Subsequently, most companies have become authoritative on handling the irregular market situations intensifying a competitive supply chain centered on quality production, quick response to customer complains, innovativeness and flexibility in production. The objective this is to shrink the production cost through increased efficiency and effectiveness. These are key characteristics of agile and lean competencies.

When designing the a supply chain, the place an order at decoupling point which act as a separate point between the customer planning point which is based on leanness and actual customer orders which is based on agility. Sufian & Monideepa, (2013) argued that good business performance is solely based on lean and agile supply chain. The efficiency and productivity in the company can be increased by assimilating logistics and supply chain management in various ways thus resulting to a significant reduction in unit cost.

The lean and agile supply is fast becoming a trend for supply chain management in organizations worldwide. This state of affairs appears to stem from the perceived benefits of going lean in the face of increasing global competition. The cycle between the technology and are reducing and the consumer demand makes necessary a superior diversity of products and services. Living in a highly demanded environment, it is mandatory to any organization to increase efficiency and responsiveness levels to stay competitive (Carvalho, Azevedo & Duarte 2011).

Beer manufacturers in Kenya are facing challenges in the supply chain due to influence of stiff competition, regulation and globalization. Due to these challenges, the performance of the organizations has decreased tremendously due to inefficient and ineffective client connection strategies and supplier relationship. Generally, in terms of performance, and improvements, EABL is far behind (KPMG, 2014).

1.1.1 Lean and Agile Procurement Strategies

According to Sufian and Monideepa, (2013), argued that coordination within firms ensures that the concept of lean management can be achieved, and this can be achieved by the firms focusing on product efficiency, waste elimination and creation of value in products. Daud and Zailani (2011), argued that lean management strategies for designing supply chain should meet customer expectations, the supply chains can be defined in various ways, firstly lean supply chain is centered on waste elimination which is seen as a continuous improvement efforts. Secondly, there is agile supply chain which mainly focuses on rapid changes, continuous fragmentation of global market, growth-oriented, and customer focused. Then lastly there is a hybrid supply chain which combines the competences of both lean and agile supply chains by creating a supply network that meets the requirements of multifaceted products.

Bodognz (2012) emphasized that the success of lean and agile procurement strategies is derived from ten basic philosophies. These include focusing on streamlining the supplier network value, waste elimination, synchronizing supplier flow, minimizing the transacting and production costs, establishing the collaborative relationships while at the same time ensuring a balanced cooperative and competitive market, ensuring visibility and transparency in supply chain, expanding quick response capability, managing uncertainty and risk, align core competencies and complementary capabilities and foster innovation and knowledge sharing; building and maintaining a lean and agile procurement revolves around four key practices. Mastering the four practices leads to a lean and effective procurement (Norek, 2012). They are demand management practices, waste management practices, standardization practices and behavioral practices.

According to Henderson *et al* (1999), lean and agile procurement is an approach aimed at reducing the cost and time with a target of improving the supply efficiency. Iskanius (2006) stresses that lean, agile, resilient and green are among the most used paradigms or strategies, but these approaches do not provide all the answers required for every organization. Espadinha-Cruz (2012) argue that both lean and agile, seen as one single strategy, are front position for achieving competitiveness advantage and organization's profit. According to Santos (2013) some of the common lean and agile procurement methodologies are; Kaizen, Kanban systems and Supplier development.

1.1.2 Organizational Performance

Performance involves the accomplishment of a given task measured against preset known standards. It would be expected that overall performance determines an organizational survival. The organization performance is very essential as it used to

measure the achievements of the company. Chen & Chen (2008) argue that the alteration of contributions into productivities with an aim of achieving outcomes is known as performance. Performance appraises the association of minimal and effective cost economy, efficiency and effectiveness.

Borade (2008) argued that practices such as established organized goals, continuous monitoring the progress of the set goals and making adjustments to the target goals increase the company performance. Consequently, it can be put across that organizational performance can therefore be reviewed in terms of whether or not an organization has achieved the set objectives.

All pointers of performance that are worth for the survival of an organization and enables the organization to achieve its success and growth should be effective. According to Azevedo *et al.*, (2013), the indicators of financial performance include profit, Return on Investment (ROI), Return on Capital Employed (ROCE), and inventory turnover while innovativeness, market standing and customer loyalty are the main indicators of non-financial performance.

1.1.3 East African Breweries Limited

East African Breweries Limited comprises five subsidiary business units: Kenya Breweries Ltd (KBL), Uganda Breweries Ltd (UBL), East Africa Maltings Ltd (EAML), East Africa breweries international (EABLi) & UDV (K) Ltd. Her business model includes publicly quoted companies, joint ventures and third party distributors. Currently, the main producer of alcohol brands in East Africa is EABL. Kenya Breweries was the founder of EABL. The main economic activities of EABL included producing, packaging and marketing of alcoholic and non-alcoholic beverages. The company's product included spirits and beer non-alcoholic beverages that were sold

with brand names such as Guinness, Johnnie Walker, Smirnoff, Richot, Waragi, V & A, Bond 7, Malt Guinness Tusker, Tusker Malt, Pilsner, White Cap, Bell, Allsopps and Alvaro brands.

The EABL has its headquarter in Kenya and another substation at Diageo with several other distilleries, support industries and breweries distributed across East African region thus ensuring quick and high delivery of quality brands to their customers. According to EABL (2010) report, EABL records more than Kshs 60 billion yearly and its listed in all stock exchanges of Uganda, Nairobi and Dar es Salaam. KPMG, (2014) report also revealed that Kenya's EABL and a subsidiary at Diageo that is the second is the largest listed company with market capitalization of US\$2.4 billion of the Nairobi Securities Exchange's total market capitalization. The company has diversified its supply chain capacity investments such by installation of new canning line that has boosted the production capacity of the company. Orr, Mwema & Mulinge, (2013) argued that the main focus of the EAB is to boost spirit infiltration speed consumers in Eat Africa thus the company has consequently capitalized in marketing and sales capabilities in this area.

EABL has been operating in a very competitive environment that has seen intense government taxation and regulation as well as the entry of new global beer competitors in the Kenyan beverage alcohol category to compete for a share of wallet of the limited disposable income (KPMG, 2014). The above scenario necessitates the need for a study into the factors influencing strategic change management at the organization (EABL, 2012). The main brand of EABL is Tusker with more than 30% of the Kenyan beer sale market and averagely more than 700,000 hectoliters of the beer is sold yearly.

1.2 Research Problem

Many organizations are in constant pressure when exploring innovative ways with aim of creating and delivering valuable services to their limited customers. Minimizing waste in the supply chain of an organization improves the profitability while at the same time reduces production cost. Lambert, (2012) argued many companies are working hard to fulfil the customer requirements by reducing the production cost, shortening the lead time and lowering the inventory levels while at the same time ensuring that the organization is making profit.

Due to the constant pressure of the customers, many companies have adopted the lean and agile procurement process which has resulted in success of many company operations. Daud & Zailani (2011) argue that lean management strategies for designing supply chain should meet customer expectations. According to Henderson *et al* (1999), the target of lean and agile procurement process is to reduce the cost of production while at the same time improving the supply efficiency. However, majority of manufacturing firms have been unable to frame the right policies essential for achieving the goals. The implementation success of lean and agile principles is also ambiguous and Bodognz (2012) note that less than 10 per cent of organizations that have implemented lean in the UK are considered successful.

EABL has been facing tough market conditions attributable to current on-going government crackdown on second generation brews, increased regulation following the implementation of Alcoholic drinks & control Act (2010), growing inflation, increase of Senator Keg's excise duty, high production costs arising from electricity and fuel costs, weakening East African currencies against the dollar and erratic rainfall patterns (KPMG Africa,2014). The EABL supply chain includes depends on

several companies for successful delivery. The target goal of EABL supply chain department is to satisfy their customers while at the sometime compounding the powerful competition from other players in the beer industry. Generally the awareness in substantially effectual supply chain can be achieved by adequate supply in form of completed products inventory. The most problematic issues affecting the preferred level of openness of EABL is using inventory level alone

Previous studies have been conducted on the aspects of lean and agile procurement. In the international scene, Larson (2014) studied the application of lean practices in the United States of America, Daud and Zailani (2011) did a research in Malaysia on lean supply chain and performance. Sufian & Monideepa (2013) examined the relationship between lean and agile supply chain strategy and supply chain responsiveness among manufacturing firms in the USA. Locally, studies done on lean supply chain practices include Kabuga (2012) studied large scale manufacturing firms lean procurement procedures in Nairobi, Macharia (2014) who did a study on lean procurement and supply chain performance at Safaricom limited and found that the performance has improved significantly since the adoption of lean procurement practices, Mbithuka (2014) study among vegetal oil treating firms in Kenya mostly focused on lean supply chain practices and supply chain awareness, Mukunju (2014) looked at lean supply chain managing plans and performance among Kenya's commercial banks. Finally, Mohamed (2015) studied lean supply chain management among public water companies in Kenya and deduced that the lean supply chain practices used by the public water companies in Kenya were demand management practices, waste management practices, standardization practices, behavioral practices, inspection activities and assurance activities. None of the previous international and local studies focused on the effect of lean and agile procurement on performance at East Africa

Breweries. Therefore the current study will focus on the effect of lean and agile procurement strategies on performance at East African Breweries?

1.3 Research Objectives

The objectives of the research were;

- i. To establish the lean and agile procurement practices used in East African Breweries limited
- ii. To establish the relationship between lean and agile procurement and performance at East African Breweries Limited

1.4 Value of the Study

The study findings are expected to enable the academicians and researchers in broadening of syllabus with respect to the effects of lean and agile procurement strategies in organization performance. Researchers will use this study for reference on future research problems.

The results would also assist manufacturing firms and their employees in improving their lean and agile procurement practices with regard to demand management, inventory management, waste management and continuous improvement. This study would also be useful to the manufacturing industries as it would help them to know how to apply lean supply chain management in their processes which would lead to organizational performance. It would help various shareholders to make strategic lean decisions in procurement, marketing Human Resource management and distribution in order to survive in the competitive industry. Beer manufacturers in Kenya would gain an in-depth understanding on how to meet customer needs cost effectively thus zero waste tolerance. Innovative ways of satisfying customers would be established.

Managers of different companies would use this study to adopt ways of reducing cost and eliminate non-value adding activities to improve on their supply chain so as to improve on overall organizational performance. The research would provide enduring and essential guidance to the top management and purchasing managers on lean manufacturing issues by developing a theoretical framework that provides a more detailed perspective of the lean procurement approaches.

The government and other policy makers would be in a position to formulate lean policies that are aimed at increasing productivity and safeguarding the interests of organizations in Kenya based on lean and agile procurement practices to achieve the vision 2030. Consumers of the manufactured products would also have the benefit of buying products at competitive prices from firms that practice and embrace lean.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This part contains past reviewed literature that are connected and in line with the goals of the research. Noteworthy issues and realistic difficulties are seriously underlined and scrutinized. This part is instrument to the study as it aids in ascertaining the information that connects the existing study with previous literature and what prospective research would still call for investigation so as to advance information.

2.2 Theoretical Foundation

This part looked at the relevant theories in relation to the research. The study was anchored on the transaction cost theory, resource dependence theory and institutional theory.

2.2.1 Resource Dependence Theory

The model states that affiliate companies should rely on and team up so as to champion together better performance benefits over an extended period of time rather than striving for short period gains to the detriment of others in supply sequence. According to Prater (2011), companies should rely on capital facilitated by others in so as to maintain development with other firms who could be reliant on them. According to the theory, companies can't be self reliant in terms of purposeful and important assets for existence. In supply chain management, eco-design of goods and supplies revitalization is consummate to firm assets necessitating supply chain affiliation to optimize the gains of performance, (Daud & Zailani, 2011). Alternatively, companies should take charge or right to use fundamental assets such

as values, measures, enabling equipment, raw materials, and delivery conduits, to realize supply chain activities and completely apprehend the possible benefits.

Cigolini *et al* (2014) argue that the theory is helpful for strengthening this line of thought as well as providing an insight in the operations of inter firms SCM execution. The theory aids in forecasting firm reactions for realizing SCM with regard to the degree and the kind of reliance of cohort companies and the respective influence in supply chain. In incorporating SCM activities such as lean procurement and clientele collaboration. Therefore, the theory helps in giving an understanding on how to make possible and advance asset purchase procedure bearing in mind the reliance of downstream as well as upstream supply chain allies.

2.2.2 Transaction Cost Theory

The theory takes into consideration three major factors of transaction namely; the specificity of asset, the number of the financial trade and insecurity. According to the theory, the arrangement of the factors are fundamental in allocating proficient control approach costs to a business deal in light of individuals who have restricted judiciousness and possess speculative inclination. Thus indecision is the cause of supply chain problems. Gomez-Mejia, Balkin and Cardy (2008) states that companies give particular supremacy form such as conservative business agreements, company to company dexterity or upright amalgamation according to the sparing business costs in view of the major scopes.

According to these company partnerships, the difficulty of doing business rises due to the increase in the eccentric reserves that cannot be re-utilized simply for other goals preparation of workers, customizing commodities, spending in inter-business arrangements of business rises as concerned. The confrontation from these business to

business connections is to plan and put into effect a control formation that generates adequate harmonization so as to achieve the necessary results at minimum probable cost, (Daud & Zailani, 2011). In such a scenario, business combination pains should be guarded. In view of delimited rationality, the fusion form or internal business will give better control performance when benefit specificity becomes important. Considering these uncertainties and degree of material specificity, the appropriate control measures should be in place. The theory persuades firms to “look ahead, perceive threats and consider these back into the agreement associations (Sufian & Monideepa, 2013).

2.2.3 Institutional Theory

According to Hirsch (1975), the theory focuses on the outside factors affecting the firms. The theory hinges on three isomorphic factors such as coercive, normative, and mimetic, (Dubois & Pedersen, 2004). Factors relating to Coercive isomorphic are applied by those in authority. The theory can aid in understanding how firms tackle efficiency issues caused by outside factors, (Lambert, 2012). Normative isomorphic factors on the other hand enable businesses to comply so as to be assumed to have legal business operations. Subsequently, Social normative forces can clarify ecological organization activities between businesses, (Larson, 2014). Moreover, Mimetic isomorphic factors happen when businesses copy the activities of flourishing opponents in the business, in an attempt to duplicate the course of their accomplishment, (Handfield, 1993).

Publicly connected necessities like those from the clients and business as well as their rising ecological demands form the central part of normative force for business to realize lean and agile supply chain management. In third world economies, buyers

have more ecological understanding. Therefore, normative societal forces in third world economies like in Africa are concluded to be mainly originated from consumers' principled standards and environmental thoughts. Past literature reveal that buyers in third world economies have an improved ecological consciousness and are beginning to pick for lean commodities, (Gomez-Mejia, Balkin & Cardy, 2008). According to the normative demands from clients, sales and exports to the clients in overseas are the major factors that motivating companies to approve lean and agile supply operations for third world nations such as China (Cigolini *et al*, 2014).

2.3 Lean and Agile Procurement Strategies

Several scholars have carried out research about lean and agile supply chain management. According to Li *et al* (2010) strategies refers to the advancement of a set of procurement operations. According to Agus, (2012), lean activities allows for even mechanized flow by improving output to the point of quality goods, use of production employment, condensed distribution period, and simultaneously, its effect to the successful processing cost through the incessant enhancement methods.

Norek (2002) argue that need administration activities, consistency activities, control of waste activities and behavioral activities are some of the major activities of lean supply chain. Lathin, (2001) posit that lean supply chain activities can be put into three categories. Category one contains leanness which involves commitments of firms to turn into lean and some of those activities are pulling down the firm, reducing the personnel and outsourcing. Category two which entails leanness as a result looks at the organizations elasticity for the subsequent a time of postponement, reducing of staff and subcontracting all are regarded as transaction development restructuring, which refers to the essential re-focusing and drastic re-structure of business activities

to attain spectacular enhancement in vital modern-day actions of effectiveness like fee, value, services and swiftness.

Iskanius (2006) explains a good activity in lean supply chain supervision to consist of need control which entails giving goods and services when asked by the client, price and lessening of waste, development evenness which allows nonstop stream, manufacturing regularity, and artistic variation and inter business partnership. Lean is exemplified by the exclusion of waste in form of labour force and asset, small stock, nil deformities, incorporated manufacturing units, partnerships and inclusion of all staff in an uninterrupted procedure to better goods and work structure.

According to Lambert (2012) lean suppliers have the ability to react to the deviations. Their charges are normally low due to the efficacies of lean processes, and their value has picked to the extent that next examination at the preceding bond is not necessary. Principles recommend lowest degree of effectiveness and value of commodities and services and workable terms in a given setting. They help clear specification, achieve reliability and reduce costs, accurate comparison of quotation, less depended on specialist suppliers, reduce error and conflict and reduce cost of material handling (Norek, 2012).

Building an organization with leaner procurement practices is a continuous improvement which requires strong integration and synchronization across the supply chain blocks (Supplier, Logistics, customers) with the consumer demand and each organization must be equipped with right capabilities (people, methods, systems) (Duarte & Machado, 2012). Lean procurement practices are often expressed as ideals to meet demand instantaneously with perfect quality and no waste. Some lean procurement methodologies are discussed below.

Lambert (2012) indicates that six-sigma is a synonym for bettering the value; waste minimization and attaining the target results. It encompasses a thorough, closely controlled reality based mode to deliver through procedure enhancement and method blueprint plan. Six -sigma is an activity for developing of value into a procedure instead of depending on assessment. In lean supply, just in time gives an economical delivery of merely the essential number of commodities which are worthy, at the correct period and situation. This is realized through the use of essentials which need complete staff participation and cooperation. This method is also interchangeably called lean (Handfield, 1993).

2.4 Performance Measurement

According to Borade (2008), performance measurement helps indicate the growth in any business. It shows the location of a firm and its directions. It acts as point of reference to the business in trying to meet its objectives. The practices are powerful behavioral tools since they communicate to employees what is important and what is required to achieve organizational goals. Performance measurement practices adapt the principle of PM, that unless you keep a score, it will be hard to determine if one is endearing or down. Azevedo *et al* (2013) argue that quantification is an important practice to the administration in developing ideologies based on the fundamental information for resolution creation, assessment of performance and efficient sharing of possessions.

Camarata and Camarata (2010) explain that the quantification of performance is a recognized perception that has taken on improved meaning in different firms. Measurement of performance structures was generated in the past to aid in the supervision and the continuance of business management which is a procedure of

ascertaining that businesses develop policies that result in the generation of ambitions and purposes. In trying to alter the focal point of the business, Brignall (2010) proposes that performance quantification is an important aspect for transformation. For several businesses the validation has been accredited by higher administration that a deficiency of suitable performance measurement can impede change and upgrading.

Traditional performance measurement practices focused on financial measures. However they have faced various criticisms such as lack of strategic focus, measuring only one aspect, being historical in nature and not providing information for productivity measurement and improvements. As such, on their own, they lack the ability to guide the firms in its efforts to achieve excellence. Modern performance measurement practices recognize the multi-dimensional views of performance measurement, link performance to strategy and presents a balance view of the system (Gomez-Mejia, Balkin & Cardy, 2008). Modern performance measurement practices include use of Balanced Score Card perspective, Benchmarking, use of Cleaner Production, focusing on Key Performance Indicators and Total Quality Management philosophy.

2.5 Lean and Agile Procurement Strategies and Performance

The overall performance of SC is affected by the set of practices that may be deployed to manage the organizations operations and the relationships with all the stakeholders. But it is not only essential to enforce the activities that improves the general effectiveness of supply chain but as well those that concentrates on common, profitable and ecological distress, (Santos, 2013). The incorporation of lean supply chain control policies strategies is intended to enhance the effectiveness of administrators of the procurement, enhance timely supplies and improve quality on

supplies at costs that enable institutions use the marked resources to maximize gain to the stakeholders. This would mean that one way to attain apt supplies and generate superior principles is to adopt lean supply chain supervision thinking and practices (Liker, 2004). Lean practices in organizations lead to flexibility, service, cost, quality and innovation are well taken care of and contribute immensely towards a good supply chain management practice (Mukwana, 2010).

Duarte and Cruz Machado (2012) comment that going Lean and agile is a trend that identifies new business opportunities for organizational improvement and for competitiveness. The same authors reinforce their idea, referring that these two paradigms are often seen as synergetic paradigms because of their both focus on waste reduction, efficient use of resources and put the focus on satisfying customer needs.

Iskanius (2006) also refer to the positive impact of Lean procurement in the automotive industry and describe some of the gains related to Lean processing leaning operations such as lowering of batch volume, smaller stock, minimal waste, superior output, more suppleness, condensed room necessities, lesser outlay, lower mechanized fees, lower delivery periods, riddance of some trade-offs and improved predicament deciphering abilities.

Lean procurement deliveries are flexible and lean in order to meet changing demand in a demand driven supply chain. In addition to sheer cost of disrupting production, long lead times can damage the present client affiliation and considerably abate the credibility of the business (Espadinha-Cruz, 2012). Lower delivery periods are the key structural element of lean processes and can result to enhanced effectiveness of supply unit processes. This in turn lowers the inventory cost making it more

consistent and increases manufacturing flexibility. Lean methods also ensures quick push and pull in the firm's product supply chain enabling quick response to demand rather than anticipated forecast (Azevedo *et al.*, 2013).

2.6 Empirical Literature Review

Several studies have been done on lean supply chain. Larson (2014) carried out a study on the accomplishment of lean activities in the United States of America; Daud and Zailani (2011) did a research on lean supply chain activities and cost effectiveness in Malaysia and found out that lean supply chain practices are directly related to the performance of the electrical, electronics and electronics manufacturing service companies in Malaysia; Mageto (2009) studied on the connection between the cost effectiveness of supply chain and supply chain awareness in retail outlets in Nairobi and found out that the cost effectiveness of supply chain and supply awareness, dependability, elasticity and relevance shows intense connection with supply chain performance.

Bergmiller and McCright (2009) are even more accurate in their conclusions. Their findings refer the advantages that managers may have when implementing Lean and agile practices as a hybrid model. Studying the Shingo Prize Awards and the finalists, these authors found out that synergistic Lean and Lean practices optimize the human resources applied to waste reduction. Also, they state that Lean activities serve as a medium to Lean results, which point out the great potential for integration. Moreover, they point out that just when mutual models are incorporated concurrently, it possible to spread out their complete prospective and get bigger gains than when incorporated differently.

Sufian and Monideepa (2013) assessed effect planned supplier joint ventures and rescheduling in that order and their connection with lean and agile supply chain policy and supply chain awareness. The research surveyed on 205 senior staff in procurement processing industries in United States of America. Results of the study indicate that planned supplier joint venture completely arbitrates the connection involving lean supply chain plans and supply chain awareness, and that rescheduling in part arbitrates the connection involving responsive supply chain plans and supply chain sensitivity.

Kabuga (2012) investigated on Lean procurement styles adopted by big industrial companies in Nairobi. Results of the study showed that styles used by big industrial companies affects lean procurement and completely helped industrial businesses to have competitive edge, reduce inventory, reduce cost and improved demand management.

Similarly, Mohamed (2015) sought to ascertain the impact of lean supply chain supervision activities and the cost effectiveness of businesses in the community water segment in Kenya. Results of the study showed that the businesses have been taking on lean supply chain control plans in spite of the difficulties emanating from the inner and outer surroundings.

Wanjiru (2014) looked at the impact of lean supply chain control plans on the cost effectiveness of financial institutions in Kenya. Research results revealed that majority of the financial institutions in Kenya have been taking on lean supply chain control plans in spite of the difficulties emanating from the inner and outer surroundings. Lean supply chain control pans have aided financial institutions to improve the effectiveness financially and non-financially.

Mutua (2015) focused on the influence of lean supply chain control activities in processing segment in Kenya. The results of the study show that majority of the businesses integrated the activities so as to lower the operation fees, succeed and for their extended term achievement.

2.7 Conceptual Framework

According to figure 2.1 there are a number of lean and agile procurement strategies that jointly lead to performance of an organization.

Independent variables

Dependent variable

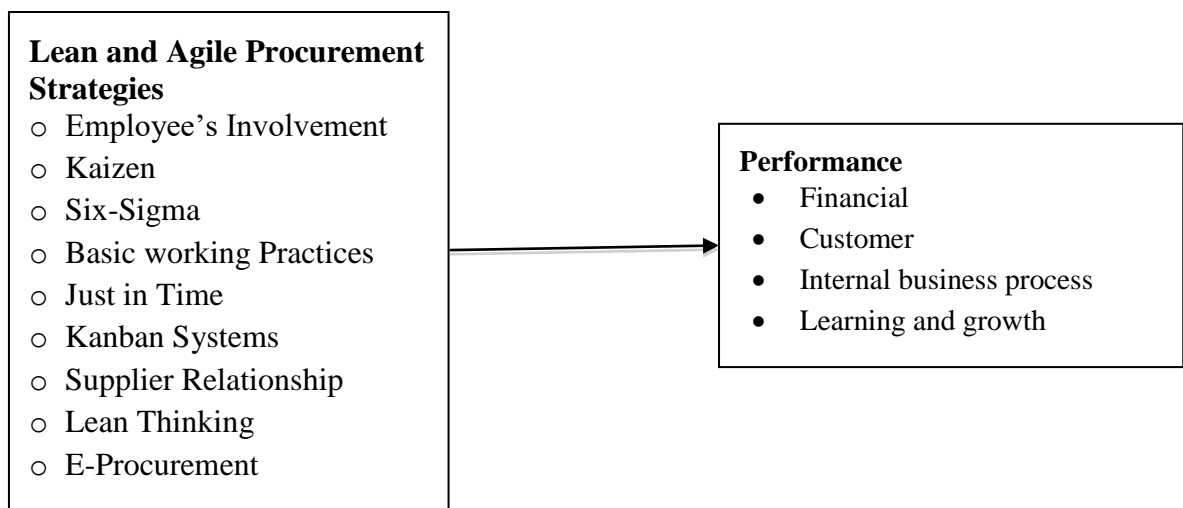


Figure 2.1 Conceptual Framework

Source: Researcher (2017)

H₀: there is no significant relationship between lean and agile procurement and performance at East African Breweries.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This part focuses on the methodology that was used in this project. It covers the study design, population, styles of gathering information and finally the procedure for conducting analysis.

3.2 Research Design

The study adopted a case study as the study only concentrated on a solitary institution. Mugenda and Mugenda (2003) describes case study as an extensive scrutiny of a person, organization or event. Similarly, Babbie (2004) asserts that a case study is a strong way of qualitative scrutiny that entails a meticulous and full determination of a social section, regardless of what sort of section is being researched on.

3.3 Population of the Study

The study targeted staff working in East African Breweries headquarters. Stratified random sampling method was employed to choose 20% of the personnel in different departments at EABL. According to Cooper and Schindler (2003), 20% of the size of the sample provides an adequate depiction of the study. Stratified sampling is a possibility sampling procedure in which the study puts the whole population into various subgroups and then arbitrarily chooses a percentage of the closing subjects from the dissimilar stratum. In addition, the researcher specifically picked on team leaders within the departments. The sample size of this study was therefore 38 team leaders.

Table 3.1 Sample Size

| Department | Target population | Sampling ratio | Sample size |
|---------------------|--------------------------|-----------------------|--------------------|
| Sales and marketing | 35 | 20% | 7 |
| Operations | 37 | 20% | 7 |
| Supply chain | 23 | 20% | 5 |
| Information systems | 22 | 20% | 4 |
| Customer service | 30 | 20% | 6 |
| Finance | 25 | 20% | 5 |
| Human resources | 19 | 20% | 4 |
| Total | 191 | | 38 |

3.2 Data Collection

The relevant data which is required for this research was gathered from primary sources with an aid of a semi-structured research instrument. Data gathering instruments comprised of both open ended and close ended queries with the quantitative segment of the questionnaire. The questionnaire was subdivided into three sections: part A focuses on the lean and agile procurement plans, part B is on the connection involving lean and agile procurement and organization performance while part C looks at performance. The research instrument was distributed using a ‘drop and pick later’ system. Before administration, the study conducted a pilot test with 15 respondents from the target population to ensure validity and consistency of the study tool.

3.3 Data Analysis

The study produced both qualitative and quantitative data in order to establish the lean and agile procurement practices at the East Africa Breweries Limited. Information generated from the acquired from the research instrument was coded and entered into

a Statistical Package for Social Sciences version 22. Descriptive information for the quantitative data consisted of frequencies, percentages, mean scores and standard deviation. Descriptive analyses were essential as they gave the foundation upon which correlational and experimental studies emerge; they also offer clues regarding the matters that should be stressed upon leading to further studies (Miano, 2010). To assist in analyzing data, factor analysis was used as it enables to sort out and analyze the major lean and agile procurement practices. Further multiple regression analysis was used to look at the connection involving the independent variables (lean and agile procurement practices) and dependent variable (organizational performance). The findings were presented using charts and tables.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This part contains analysis results in form of tables. Tables are used to present the results on descriptive and inferential analysis. The summary of the results are detailed as per each study objective

4.2 Response Rate

The study targeted 38 team leaders to respond to questionnaires. However data was collected from 36 respondents giving a response proportion of 94.7%. This was acceptable for data analysis as per Creswell (2005) who argued that for data analysis to be done a response rate of 50 percent or more is required.

4.3 Reliability Analysis

Cronbach's Alpha determines the internal constancy by ascertaining whether some items are within a scale measure similar construct in which it was used. Cooper and Schindler (2003) put the Alpha value benchmark at 0.7.

Table 4.1: Reliability Analysis

| | Cronbach's Alpha | Decision |
|-----------------------------|-------------------------|-----------------|
| Demand management practices | .832 | Reliable |
| Waste management practices | .861 | Reliable |
| Standardization practices | .721 | Reliable |
| Behavioral practices | .718 | Reliable |

From the above findings, the waste management practices was the most reliable with an Alpha value of 0.861, followed by demand management practices with an Alpha value of 0.832 then standardization practices with an Alpha value of 0.721 while behavioral practices was the least reliable with an Alpha value of 0.718. the results of

the study indicate that all the study variables had an alpha value greater than 0.7 which is a recommended threshold according to Cooper and Schindler (2003). This, therefore, implies that the research instrument was reliable and therefore required no amendments.

4.4 Implementation of Various Lean and Agile Procurement Strategies

The respondents were requested to point out if their firm has implemented various lean and agile procurement strategies in its work place, using a five point scale Likert scale (where 1= no extent at all, 2=small extent, 3=moderate extent; 4= great extent; 5=very great extent). Their responses were as shown in Table 4.2.

Table 4.2: Implementation of Various Lean and Agile Procurement Strategies

| | Mean | Std. Dev. |
|--|--------|-----------|
| Firm has few and long term relationship with the suppliers (Supplier Relationship) | 4.3611 | .6826 |
| There is close collaborations with supplier (Lean suppliers practices) | 4.3056 | .7099 |
| Firm has sound replenishment models to pull consumption for its product (Lean product management practices) | 4.2778 | .6146 |
| Firm buys products in smaller batches only when they are needed at the place where they are needed and exactly in the quantity required (Just in Time) | 4.1667 | .7368 |
| Firm efficiently utilizes its space and machine (Lean warehousing practices) | 3.9167 | .8742 |
| Firm practices delayering, Downsizing and Outsourcing (Lean Thinking) | 3.9167 | .8742 |
| Firm uses containers, cards or visual cue to control the movement of materials throughout the supply chain (Kanban Systems) | 3.6389 | .6826 |
| Firm uses Information and Communication technology (ICT) such as EDI, and E-markets in the procurement process (E-Procurement) | 3.2500 | .6918 |

The respondents indicated that supplier relationship as shown by a mean of 4.3611, lean suppliers practices as expressed by a mean score of 4.3056, lean product management practices as illustrated by a mean of 4.2778 and Just in Time as shown by a mean of 4.1667 have been implemented in the firm in a great extent. Additionally, the respondents indicated that lean thinking as shown by a mean of 3.9167, Lean warehousing practices as revealed by a mean of 3.9167 and Kanban Systems as indicated by a mean score of 3.6389 have been implemented greatly in the firm. However, the respondents indicated that E-Procurement has been implemented in a moderate extent as shown by a mean of 3.2500.

It was established that supplier relationship, lean suppliers practices, lean product management practices and Just in Time have been implemented in the firm in a great extent. It was further revealed that lean thinking, lean warehousing practices and Kanban Systems as indicated have been implemented greatly in the firm while E-Procurement was found to have been implemented in a moderate extent. These findings conform to Santos (2013) who notes that some of the common lean and agile procurement methodologies are; Kaizen, Kanban systems and Supplier development

4.5 Extent of Effect of Implementation of Lean and Agile Procurement Strategies

The respondents using a Likert scale 1-5, were to indicate the extent to which implementation of demand management practices in their work place affected the performance of their company. Their collective responses were demonstrated in Table 4.3.

Table 4.3: Effect of Demand Management Practices Implementation

| Demand management practices | Mean | Std. Dev. |
|--|-------------|------------------|
| The firms always conducts annual demand forecasting | 4.2222 | .5909 |
| The firm always communicates its demand forecasts to its supply chain partners. | 4.1944 | .8559 |
| The firm manages its customer orders to match available supply. | 4.0278 | .7741 |
| The firm always conducts annual production and purchasing planning | 3.6389 | .5930 |
| The firm always does product positioning, pricing and promotion of its products. | 3.4444 | .8765 |
| The firm has invested time and money in collaborative demand planning | 2.6389 | .9900 |

From the findings on demand management practices, the respondents indicated that the fact that firms always conducts annual demand forecasting (Mean=4.2222), always communicates its demand forecasts to its supply chain partners (Mean=4.1944), manages its customer orders to match available supply (Mean=4.0278) and always conducts annual production and purchasing planning (Mean=3.6389), this affects the performance of their company greatly.

The respondents further that firm performance is moderately affected since the firm always does product positioning, pricing and promotion of its products (Mean=3.4444) and has invested time and money in collaborative demand planning (Mean=2.6389).

The participants were also requested to point out the degree to which adoption of waste management activities in their institution influenced the effectiveness of the firm. Their answers were as demonstrated in Table 4.4.

Table 4.4: Effect of Waste Management Practices Implementation

| Waste management practices | Mean | Std. Dev. |
|--|-------------|------------------|
| The firm encourages doing the right thing the first time | 4.1389 | .7983 |
| The firm has small specialized plants rather than vertically integrated manufacturing facilities. | 4.0278 | .8779 |
| The firm practices the philosophy of grouping similar parts in families to eliminate movement and queue | 3.7778 | .7216 |
| The authority to produce or supply additional parts always comes from the downstream operations. | 3.4167 | .5000 |
| The firms production flow is smooth to dampen reaction waves that occur in response to schedule variations | 2.9444 | .6738 |
| The firm produces what is needed and no more (JIT) | 1.8889 | .6667 |

On waste management practices, the respondents indicated that their company effectiveness is greatly affected by the notion that the firm encourages doing the right thing the first time as shown by a mean score of 4.1389, the firm has small specialized plants rather than vertically integrated manufacturing facilities as shown by a mean score of 4.0278 and that the firm practices the attitude of sorting identical parts in households to do away with movement and wait in line as indicated by a mean value of 3.7778.

Further the participants pointed out that power to manufacture or provide extra parts normally arises from the downstream activities as shown by a mean of 3.4167 and the firms production flow is smooth to dampen reaction waves that occur in response to schedule variations as shown by a mean of 2.9444 moderately affects firm performance while the firm producing what is needed and no more (JIT) as shown by a mean of 1.8889 affects firm performance in a small extent.

The researcher requested the respondents to indicate the extent to which implementation of standardization practices in their work place affected the performance of their company. The summary results of the answers given by the participants are as demonstrated in Table 4.5.

Table 4.5: Effect of Standardization Practices Implementation

| Standardization practices | Mean | Std. Dev. |
|--|-------------|------------------|
| The firm always employs quality assurance at all times | 4.2222 | .6375 |
| The firm has standardized and rationalized the range of materials, parts and consumables | 3.8611 | .8669 |
| The firm encourages quality control activities in all its production stages | 3.0556 | .7908 |

On standardization practices, the respondents indicated practices that the firm always employs quality assurance at all times as shown by a mean of 4.2222 and the firm has standardized and rationalized the range of materials, parts and consumables as shown by a mean of 3.8611 greatly affects firm performance. The respondents however indicated practice that the firm encourages quality control activities in all its production stages as shown by a mean of 3.0556 affects firm performance moderately.

The participants were asked to point out the degree to which implementation of behavioral practices in their work place affected the performance of their company. Their answers were illustrated in Table 4.6.

Table 4.6: Effect of Behavioral Practices Implementation

| Behavioral practices | Mean | Std. Dev. |
|---|-------------|------------------|
| The firm always encourages high employee participation | 4.2500 | .7700 |
| The firm always encourages quality of working life emphasis | 4.0556 | .8927 |
| The firm has multiple carrier ladders for its staff | 3.5833 | .6918 |
| The firm has many and flexible employee incentives | 3.1111 | .6223 |
| The firm has always broadened the experience of work to enhance employee needs satisfaction | 2.9722 | .6964 |

From the findings, the respondents indicated that behavioral practices affect firm performance greatly as a result of the firm always encourages high employee participation as shown by a mean of 4.2500, always encourages quality of working life emphasis as shown by an average value of 4.0556 and has multiple carrier ladders for its staff as shown by a mean of 3.5833.

However the respondents indicated that behavioral practices affect firm performance moderately since the firm has many and flexible employee incentives as shown by a mean of 3.1111 and has always broadened the experience of work to enhance employee needs satisfaction as shown by an average value of 2.9722.

Demand control practices such as conducting annual demand forecasting, always communicating firms demand forecasts to firms supply chain partners, managing firm customer orders to match available supply and conducting annual production and purchasing planning were found to affect the performance of their company greatly. Other practices such as doing product positioning, pricing and promotion of firms' products and investing time and money in collaborative demand planning was found to affect performance is moderately. These findings are similar to study by Iskanius (2006) who argue that the most excellent activities in lean supply chain control

consist of need control which entails the facilitation of goods and services when asked for by a client.

Waste control activities such as doing the right thing the first time, small specialized plants rather than vertically integrated manufacturing facilities and attitude of sorting identical parts in households to do away with movement and wait in line greatly affect performance. Further practices like power to generate or provide supplementary parts always arises from the downstream activities and the firms production flow is smooth to diminish feedback impression that occur in reaction to program deviation moderately affects firm performance while the firm producing what is needed and no more (JIT) affects firm performance in a small extent. This concurs with Lambert (2012) who argues that lean providers are capable to react to variations to changes.

Standardization practices like employing quality assurance at all times and the firm has standardized and rationalized the range of materials, parts and consumables affects firm performance while encouraging quality control activities in all its production stages affects firm performance moderately. This is corresponding to Henderson *et al* (1999) view that lean firms have more attention on raising their supplier's potential so as to lessen expenditure and better their value.

It was clear that behavioral practices affect firm performance greatly as a result of the firm always encourages high employee participation, always encourages quality of working life emphasis and having multiple carrier ladders for its staff. Further it was found that behavioral practices affect firm performance moderately since the firm has many and flexible employee incentives and always having broadened the experience of work to enhance employee needs satisfaction. This corresponds to Espadinha-Cruz

(2012) who argues that lean procurement deliveries are flexible and lean in order to meet changing demand in a demand driven supply chain.

4.6 Lean and Agile Procurement Strategies and Performance in EABL

The researcher asked the respondents to indicate their level of agreement with various statements in relation to lean and agile procurement and performance in EABL. Their responses were summarized in Table 4.7.

Table 4.7: Level of Agreement with Statements

| | Mean | Std. Dev. |
|---|-------------|------------------|
| Lean helps to minimize new product development time and expense | 4.3333 | .8281 |
| Lean and agile procurement reduces waste | 4.2222 | .7216 |
| Lean and agile procurement systems allow a supply chain to not only to be more efficient, but also faster and responsive | 4.1667 | .7746 |
| Lean and agile procurement sheers cost of disrupting production | 3.9722 | .9706 |
| Lean and agile procurement deliveries are flexible and lean in order to meet changing demand in a demand driven supply chain | 3.8056 | .6243 |
| Lean and agile procurement reduces lead time | 2.7500 | .6918 |
| Lean promotes the use of less capital-intensive machines, tools, and fixtures, which results in more flexibility and less initial cost to recover | 2.1667 | .9103 |

As per the findings, the respondents agreed that lean helps to minimize new product development time and expense as expressed by an average value of 4.3333, that lean and agile procurement reduces waste as expressed by an average value of 4.2222. The participants also agreed that lean and agile procurement structures enables a supply chain to be effective, quicker and reactive as articulated by an average value of 4.1667, that lean and agile procurement sheers cost of disrupting production as shown by a mean of 3.9722 and that lean and agile procurement deliveries are flexible and

lean in order to meet changing demand in a demand driven supply chain as revealed by an average value of 3.8056.

However the participants neither agreed nor disagreed that lean and agile procurement reduces lead time as shown by a mean of 2.7500 and disagreed that lean encourages the utilization of low money demanding equipments, apparatus, and fittings, which leads in more suppleness and fewer primary expenditure to recuperate as shown by a mean of 2.1667.

The study revealed that that lean helps to minimize new product development time, that lean and agile procurement systems enable a supply chain to be effective, quick, reactive and expense, that lean and agile procurement reduces waste, that lean and agile procurement sheers cost of disrupting production and that lean and agile procurement deliveries are flexible and lean in order to meet changing demand in a demand driven supply chain. The study also made it clear that lean and agile procurement lowly reduces lead time and disagreed that it encourages the adoption of low money demanding equipments, apparatus and fittings which leads to higher elasticity and lower overhead expenditure to regain. This correlates with mukwana (2010) who argue that lean practices in organizations lead to flexibility, service, cost, quality and innovation are well taken care of and contribute immensely towards a good supply chain management practice.

4.8 Organizational Performance

The participants were requested to point out if there has been a the trend of various aspects of performance in their company for the last five years. Various Tables presents their responses.

Table 4.8: Trend of Financial Aspect of Performance

| Financial | Mean | Std. Dev. |
|------------------|-------------|------------------|
| Stability | 4.1389 | .7617 |
| Profitability | 3.8056 | 1.0090 |
| Growth | 3.4444 | .8433 |

On financial performance in Table 4.9, the participants showed that Stability as revealed by an average value of 4.1389 and profitability as shown by an average value of 3.8056 has improved while growth as shown by an average value of 3.4444 has been constant.

Table 4.9: Trend of Customer Aspect of Performance

| Customer | Mean | Std. Dev. |
|--------------------------------|-------------|------------------|
| Market share/premiums | 4.2778 | .8489 |
| Internal customer Satisfaction | 4.1944 | .8559 |
| External customer Satisfaction | 3.8333 | .3780 |
| CSR | 3.6667 | .5855 |
| Environmental aspect | 3.1667 | .7746 |

Further on customer in Table 4.10, the respondents indicated that market share/premiums as shown by 4.2778, internal customer satisfaction as shown by an average value of 4.1944, external client contentment as shown by a mean score of 3.8333 and CSR as shown by an average value of 3.6667 have been improving while environmental aspect as shown by an average value of 3.1667 have been constant over the last five years.

Table 4.10: Trend of Internal Business Process Aspect of Performance

| Internal business process | Mean | Std. Dev. |
|----------------------------------|-------------|------------------|
| Technological capacity | 4.1944 | .8559 |

| | | |
|--------------------------|--------|--------|
| Business efficiency | 3.8333 | .8106 |
| Research and development | 3.0833 | 1.1052 |

Further on internal business process aspect in Table 4.11, the respondents indicated that technological capacity as expressed by a mean score of 4.1944 and business efficiency as illustrated by a mean of 3.8333 have improved while research and development as shown by a mean of 3.0833 have been constant.

Table 4.11: Trend of Learning and Growth Aspect of Performance

| Learning and Growth | Mean | Std. Dev. |
|----------------------------|-------------|------------------|
| Informatization | 4.1389 | .7617 |
| Human resource development | 3.7500 | .8409 |
| Organization competency | 3.4444 | .8433 |

Finally concerning learning and growth aspect in Table 4.12, the participants revealed that informatization as illustrated by a mean score of 4.1389 and human resource development as shown by an average value of 3.7500 has improved while organization competency as indicated by an average value of 3.4444 has been constant.

4.9 Relationship between Lean Agile Procurement practices and Performance

Regression tests enable the study to establish the connection involving dependent variable and the independent variables. The study sought to establish the relationship between lean and agile procurement and performance at East Africa breweries limited Kenya.

Table 4.12: Model Summary Relationship between Lean Agile Procurement practices and Performance

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|--------------|----------|-----------------|--------------------------|-----------------------------------|
|--------------|----------|-----------------|--------------------------|-----------------------------------|

| | | | | |
|---|-------|-------|-------|-------|
| 1 | 0.871 | 0.759 | 0.727 | 0.891 |
|---|-------|-------|-------|-------|

The results in table 4.12 revealed that the adjusted R^2 was 0.727 which implies that 72.7% of the variations in performance at East Africa breweries limited Kenya is explained by demand management practices, waste management practices, standardization practices and behavioral practices.

Table 4.13: ANOVA results

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|--------------|----------------|-----------|-------------|--------|-------|
| | Regression | 84.897 | 4 | 21.224 | 24.352 | 0.000 |
| 1 | Residual | 27.018 | 31 | 0.872 | | |
| | Total | 111.915 | 35 | | | |

The significance value of 0.000 showed that the connection was extremely significant in forecasting how demand management practices, waste management practices, standardization practices and behavioural practices affected performance at East Africa breweries limited Kenya. The F computed at 5% level of significance was 24.352 as F computed was higher than F critical (value =2.6896), this implies that the overall equation was significant.

Table 4.14: Coefficients of Determination

| | Unstandardized | | Standardized | t | Sig. |
|-----------------------------|----------------|------------|--------------|-------|------|
| | Coefficients | | Coefficients | | |
| | B | Std. Error | Beta | | |
| (Constant) | 0.816 | 0.120 | | 6.800 | .000 |
| Demand management practices | 0.747 | 0.281 | 0.702 | 2.658 | .012 |
| Waste management practices | 0.823 | 0.166 | 0.776 | 4.958 | .000 |

| | | | | | |
|---------------------------|-------|-------|-------|-------|------|
| Standardization practices | 0.612 | 0.227 | 0.599 | 2.696 | .011 |
| Behavioral practices | 0.661 | 0.268 | 0.572 | 2.466 | .019 |

The established model for the study was:

$$Y = 0.816 + 0.747 X_1 + 0.823 X_2 + 0.612 X_3 + 0.661 X_4$$

The optimal regression model revealed that taking into account demand management practices, waste management practices, standardization practices and behavioural practices at a constant zero, the performance at East Africa breweries limited Kenya was 0.816. The findings presented also show that demand management practices and performance at East Africa breweries limited Kenya are positively and significantly related as shown by a coefficient of 0.747 and p-values of 0.012.

The study also found that waste management practices and performance at East Africa breweries limited Kenya are positively and significantly related as shown by a coefficient of 0.823 and p-value of 0.000.

Further the study found that standardization practices and performance at East Africa breweries limited Kenya are positively related as shown by coefficient of 0.612 and p-value of 0.011.

Again, the findings shows that behavioral practices and performance at East Africa breweries limited Kenya are positively and significantly related as illustrated by a coefficient of 0.661 and p-value of 0.019.

Overall, waste management practices was greatly related to the performance at East Africa breweries limited Kenya, followed by demand management practices then behavioral practices while standardization practices had the least effect on the

performance at East Africa breweries limited Kenya. All the variables were significant ($p < 0.05$).

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This part details the summary of data results as well as conclusion generated from the results discovered and suggestion prepared there-to. The conclusions and recommendations generated aimed at tackling the purpose of the research.

5.2 Summary of Findings

The study found that East African Breweries have greatly implemented supplier relationship, lean suppliers practices, lean product management practices, Just in Time, lean thinking, lean warehousing practices and Kanban Systems with E-Procurement being been implemented in a moderate extent.

It was clear that East African Breweries implemented demand management practices such as conducting annual demand forecasting, always communicating firms demand forecasts to firms supply chain partners, managing firm customer orders to match available supply and conducting annual production product positioning, pricing and promotion of firms' products and investing time and money in collaborative demand planning and purchasing planning which were found to affect its performance.

The study revealed that waste management practices implemented were: doing the right thing the first time, small specialized plants rather than vertically integrated manufacturing facilities, attitude of combining identical parts in households to do away with locomotion and wait in line, power to create or provide extra parts constantly emanating from the downstream activities and the firms production flow is

smooth to dampen reaction waves. These were found to affect East African Breweries performance

East African Breweries was found to have implemented standardization practices like employing quality assurance at all times and the firm has standardized and rationalized the range of materials, parts and consumables. These practices were revealed to affect East African Breweries performance.

The study established that behavioral practices affect firm performance greatly. This is because the firm always encourages high employee participation, always encourages quality of working life emphasis and having multiple career ladders for its staff. Further it was clear that behavioral practices affect firm performance moderately due to the firm has many and flexible employee incentives and always having broadened the experience of work to enhance employee needs satisfaction.

5.3 Conclusion

The study established that demand administration practices and performance at East Africa breweries limited Kenya are positively and significantly. This is due to the fact that East Africa breweries limited has been conducting annual demand forecasting and managing firm customer orders to match available supply. They have also been communicating firms demand forecasts to firms supply chain partners.

The study further recommends that waste management practices and performance at East Africa breweries limited Kenya are positively and significantly. This is as a result of implementation of doing the right thing the first time, small specialized plants rather than vertically integrated manufacturing facilities and attitude of combining identical parts in households to do away with locomotion and wait in line,

power to create or provide extra parts constantly emanating from the downstream activities.

The study also concludes that standardization practices and performance at East Africa breweries limited Kenya are positively and significantly. In this case employing quality assurance at all times and the firm has standardized and rationalized the range of materials, parts and consumables were revealed to affects East African Breweries performance.

The study again concludes that behavioral practices and performance at East Africa breweries limited Kenya are positively and significantly. The firm always encourages quality of working life emphasis and having multiple carrier ladders for its staff and encourages high employee participation.

Finally the study concluded that waste management practices was greatly related to the performance at East Africa breweries limited Kenya, followed by demand management practices then behavioural practices while standardization practices had the least relationship with the performance at East Africa breweries limited Kenya.

5.4 Recommendations

The study recommends that East Africa Breweries Limited should ensure that they engage services of qualified individuals who have the required expertise in the implementation of lean procurement practices that can assist in making informed lean procurement. This will assist them to avoid making decisions which pose challenges to its operation.

The study further recommends that East Africa Breweries Limited should formulate policies to improve lean procurement practices like just in time procurement. This can

be achieved by improving infrastructure and increasing suppliers. The government of Kenya should also formulate policies to improve e-procurement. This can be done by improving Information, communication and technology.

The study further recommends the use of homogeneity. A proper working place entices staff, both on the superstore floor as well as others. Standardization better the security, job efficacy, raises the yields and brings about a sense of possession.

This study also recommends that the key procurement actors should come up with viable ways of managing procurement process. To ensure better performance, organizations should not only focus on planning and training but also on the procurement inventory, control and monitoring. Critical revitalization of procurement process is a requirement as it can assist in ensuring that organizations embrace modern technological ways and trends in handling and addressing procurement issues. The organization's management in conjunction with other stakeholders should embrace modern ways in planning and should as well come up with well-tailored training programs on practices of procurement.

The study recommends that EABL should focus on having consistent dealers whose distribution plans are practical and within its necessities. This will reduce last minute acquisitions that are usually costly and thus badly influence on the performance. The East Africa Breweries Limited should also carry out to have prequalified providers so that the supply chain procedure is reduced for regular purchases and this too, will aid in determining extended term connections with the providers and thus, improved negotiation power.

5.5 Limitations of the Study

The study findings were concluded on the basis of responses from team leaders in EAST Africa Breweries Limited only. The findings can therefore not be generalized to other organizations in Kenya, whether in the service industry or in the manufacturing industry.

Another challenge faced was the administration of the questionnaires. The fact that the intended mode of the data collection was to furnish the respondents with questionnaires and get them back immediately was not possible. Therefore, the questionnaires were dropped and picked after some days and this meant that the control to who filled the questionnaires could not be verified. Scarcity of funds was another limitation. The limitations therefore dictated the number of respondents and the duration of the study.

5.6 Suggestions for Further Research

This study was only able to address the connection involving lean procurement strategies and performance at East Africa Breweries Limited Kenya. It will be necessary to carry out a study featuring other organizations in Kenya in order to determine if there are any resemblance and dissimilarity in the results of the research.

It will also be important to do a comparative study with another country both in the sub region such as Zimbabwe and Zambia, the developed and developing world to ascertain the similarities and differences in lean and agile procurement strategies. There is also a need to carry out a study on the connection involving lean and agile procurement strategies and performance in other industries in Kenya.

REFERENCES

- Achieng, J. K. (2012). *Lean supply chain management practices at public universities in Kenya*. Nairobi. Unpublished MBA project, University of Nairobi.
- Agus, A. & Hajinoor, M. S. (2012). Lean production supply chain management as driver towards enhancing product quality and business performance: Case study of manufacturing companies in Malaysia, *International Journal of Quality & Reliability Management*, 29(1), 92–121
- Azevedo, S. G., Carvalho, H. Cruz-Machado, V. (2013). Using interpretive structural modeling to identify and rank performance measures: An application in the automotive supply chain, *Baltic Journal of Management*, 8(2), 208-230.
- Babbie, E. (2004). *Survey research methods* (2nded.). Belmont: Wodsworth.
- Bodognz, G. (2012). *Lean Supplier Networks, Massachusetts Institute of Technology*, ppt. slides. BS EN ISO 8402, 1995.
- Borade, C. (2008). Basic context for organizational change. *Authenticity Consulting Journal*, 67(23). 45-67.
- Carvalho, H. Azevedo, S. G., and Duarte, S. (2011). Green and Lean paradigms influence on sustainable business development of manufacturing supply chains, *International Journal of Green Computing*, 2(2), 45-62.
- Central bank of Kenya (1991). *Kenya land of opportunity*. Nairobi: Central Bank of Kenya

- Chen, K., & Chen, S. (2008). Personal traits and leadership styles of taiwans higher educational institution in innovative operations. *Journal of American Academy of Business*, Cambridge, 12(2). 145-150.
- Cigolini, R., Cozzi, M., and Perona, M. (2014). A new framework for supply chain management Conceptual model and empirical test. *International Journal of Operations & Production Management*, 24(1). 7-41.
- Cooper, D. R., & Schindler, P. S. (2003). *Business research methods* (8th edn). New York: McGraw-Hill.
- Cozzi, T. and Perona, A. (2012). Power, Value and SCM. *Supply Chain Management: An International Journal*. 4(4), 167-175
- Daudi, A and Zailani, S. (2011). *Lean supply Chain Practices and Performance in the Context of Malaysia*, Available at: [www. Intechopen.com](http://www.intechopen.com)
- De Vaus, D. A. (2001). *Research design in social science*, London: Sage Press
- Duarte, S., Cruz-Machado, V., and Cabrita, R. (2012). Exploring Lean and Green Supply Chain Performance Using Balanced Scorecard Perspective, *Proceedings of the 2011 International Conference on Operations Management*, Kuala Lumpur, Malaysia.
- Dubois, A. K and Pedersen, A. (2004). Supply chains and interdependence: a theoretical analysis. *Journal of Purchasing & Supply Management*, 10(1), 3-9.
- EABL (2012). *The Kenya Brewery Industry*, EABL Corporate Citizenship Report.

- Espadinha-Cruz, P. (2012). *Lean, Agile, Resilient and Green Supply Chain Management Interoperability assessment methodology*, Available online at run.unl.pt/bitstream/10362/7845/1/Cruz_2012.pdf.
- Gomez-Mejia, L. R., Balkin, D. B., and Cardy, R. L. (2008). *Managing human resources* (5th ed.). Upper Sadle River, NJ: Pearson Education International.
- Harland, C.M. (2012) *Supply Chain Management, Purchasing and Supply Management, Logistics, Vertical Integration, Materials Management and Supply Chain Dynamics*. In: Slack, N (ed.) Blackwell Encyclopedic Dictionary of Operations Management. UK: Blackwell.
- Hirsch, L.L; Padmanabhan, V. and Whang, S. (1975).The bullwhip effect in Supply chains. *Journal of Logistics Systems and Management*, 2 (6), 1-19.
- Hunt, D. M. & Gufwoli, P. (1986). *Strategic management: Kenya a book of cases*. Ohio: Wyndham Hall Press.
- Kabuga, M .W (2012). *Lean Procurement Methodologies used by Large Scale Manufacturing Firm in Nairobi, Kenya*.MBA project .University of Nairobi
- Kabuga, M.W. (2012). *Lean Procurement Methodologies used by Large Scale Manufacturing Firm in Nairobi, Kenya*. MBA project .University of Nairobi
- KPMG Africa (2014). *Incredible growth of Kenya beer market*.(Blog post) Retrieved from <http://www.blog.kimgafrica.com/incredible-growth-kenyas-beer-market>
- Lambert, D.M., & Pagh, J. (2012). Supply Chain Management: More Than a New Name for Logistics.*The International Journal of Logistics Management*, 8(1), 1–14.
- Larson, P.D. and Halldorsson, A. (2014). Logistics versus supply chain management: an international survey. *International Journal of Logistics*, 7(1), 17-31.

- Li, S., Togar. M. S and Ramaswami, S. (2010). The Impact of Supply Chain Management Practices on Competitive Advantage and Organizational Performance, *Omega*, 34 (2), 107-124.
- Liker, J. K. (2004). *The Toyota Way 14 Management Principles from the World's Greatest Manufacturer*, McGraw Hill, ISBN 0-07139231-9
- Magdalene, W. K. (2012). *Lean Supply Chain Practices In Urban Road Construction Projects: A Case Of Class A Road Construction Companies In Nairobi County, Kenya*. Unpublished MBA project, University of Nairobi.
- Mageto, J.N., (2009). *Relationship Between Supply Chain Performance and Supply Chain Responsiveness: A case of Supermarkets in Nairobi, Kenya*, Unpublished MBA thesis, University of Nairobi, Nairobi.
- Mbithuka, L. K. (2014). *Lean Supply Chain Practices And Supply Chain Responsiveness Among Vegetable Oil Processing Firms In Kenya*. Unpublished MBA project, University of Nairobi.
- Mohamed A. F. (2015). *Lean Supply Chain Management Practices And Organizational Performance In The Public Water Sector In Kenya*. Unpublished MBA project, University of Nairobi.
- Mukunju, E.W (2014). *Impact Of Lean Supply Chain Management Strategies On The Performance Of Commercial Banks In Kenya*. Unpublished MBA project, University of Nairobi.
- Mutua. M .(2015). *Lean Supply Chain Management Practices And Organizational Performance Of Large Scale Manufacturing Firms In Kenya*. Unpublished MBA project, University of Nairobi.
- Norek, C.D., (2012). Returns Management Making Order out of Chaos, *Supply Chain Management Review*, 5(2), 23-61.

- Orr, A., Mirema, C. & Mulinge, T. (2013). *The value chain for sorghum beer in Kenya*. In: Inicrisat-sub-economics discussion paper series, series paper November 16 10-22. Retrieved from <https://www.oar.icrisat.org/sdps-16>
- Prater, S., (2011). Supply Chain Improvement Initiatives in the Textile, Clothing, Footwear and Leather Industry; A Field Study, *International Journal of Logistics Systems and Management*, 3 (1), 19-59.
- Qi, X. Zhao, and Sheu, C. (2011). The Impact of Competitive Strategy and Supply Chain Strategy on Business Performance: The Role of Environmental Uncertainty, *Decision Sciences Journal*, 42(2), 371-389.
- Handfield, R.B. and Nichold, E.L. (2002). *Supply chain redesign: Transforming supply chains into integrated value systems*, Upper Saddle River, NJ: Prentice Hall.
- Rivera, T.H. (2004). *Measuring performance in public and Non-Profit Organizations*, Upper Saddle River: Jossey-Bass.
- Santos, J. (2013). A simulation model for Lean, Agile, Resilient and Green Supply Chain Management: practices and interoperability assessment, Available online at <http://run.unl.pt/handle/10362/10972>.
- Sufian, Q. and Monideepa, T. (2013). Lean and agile supply chain strategies and supply chain responsiveness: the role of strategic supplier partnership and postponement, *Supply Chain Management: An International Journal*, 18 (6), 571 – 582.
- Swafford, S. G., and Murthy, N. (2008). Achieving Supply Chain Agility Through IT Integration and Flexibility, *Int. J. Production Economics*, 116(1), 288-297.

- Togar. M. S. and Ramaswami, S. (2014). A benchmarking scheme for supply chain collaboration, *An International Journal*, 11(1), 9-30.
- Yusuf, B., Shlipak, M. G., Garg, A. X., & Parikh, C. R. (2014). Long-term risk of mortality and other adverse outcomes after acute kidney injury: A systematic review and meta-analysis. *American journal of kidney diseases*, 53(6). 961-973.

APPENDICES

Appendix I: Research Questionnaire

This is a research aims at determining how your firm lean and agile procurement practices relate to performance. There is no right or wrong answers and the results are confidential and strictly for academic purpose. Your honest participation in this survey was highly appreciated.

Answer all questions as indicated by either filling in the blank or ticking the option that applies.

Part A: Lean and Agile Procurement Strategies

1) To what extent has your firm implemented the following lean and agile procurement strategies in its work place, using a five point scale below? Please tick appropriately against each statement. The scale stand for the following: 1 = No Extent at All; 2= Small Extent; 3= Moderate Extent; 4= Great Extent; 5= Very Great Extent

| | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| The employees are free to bring any Lean and agile procurement cultural change in the organization. (Employee's Involvement) | | | | | |
| The firm continually improve their own performance with small incremental Lean and agile procurement improvements (Kaizen) | | | | | |
| Firm does not rely on inspecting products procured (Six-Sigma) | | | | | |
| Firm has set a compensating system on those employees who practice lean (Basic working Practices) | | | | | |
| Firm buys products in smaller batches only when they are needed at the place where they are needed and exactly in the quantity required (Just in Time) | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| Firm uses containers, cards or visual cue to control the movement of materials throughout the supply chain (Kanban Systems) | | | | | |
| Firm has few and long term relationship with the suppliers (Supplier Relationship) | | | | | |
| Firm practices delayering, Downsizing and Outsourcing (Lean Thinking) | | | | | |
| Firm uses Information and Communication technology (ICT) such as EDI, and E-markets in the procurement process (E-Procurement) | | | | | |
| Firm has sound replenishment models to pull consumption for its product (Lean product management practices) | | | | | |
| There is close collaborations with supplier (Lean suppliers practices) | | | | | |
| Firm efficiently utilizes its space and machine (Lean warehousing practices) | | | | | |

Part B: Relationship Between Lean And Agile Procurement And Organization Performance

2) To what extent has the implementation of the following lean and agile procurement practices in your work place affected the performance of your company, using a five point scale below? Please tick appropriately against each statement. The scale stand for the following: 1 = No Extent at All; 2= Small Extent; 3= Moderate Extent; 4= Great Extent; 5= Very Great Extent

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Demand management practices | | | | | |
| The firm has invested time and money in collaborative demand planning | | | | | |
| The firms always conducts annual demand forecasting | | | | | |
| The firm always conducts annual production and purchasing | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| planning | | | | | |
| The firm always communicates its demand forecasts to its supply chain partners. | | | | | |
| The firm always does product positioning, pricing and promotion of its products. | | | | | |
| The firm manages its customer orders to match available supply. | | | | | |
| Waste management practices | | | | | |
| The firm has small specialized plants rather than vertically integrated manufacturing facilities. | | | | | |
| The firm practices the philosophy of grouping similar parts in families to eliminate movement and queue | | | | | |
| The firm encourages doing the right thing the first time | | | | | |
| The firm produces what is needed and no more (JIT) | | | | | |
| The firms production flow is smooth to dampen reaction waves that occur in response to schedule variations | | | | | |
| The authority to produce or supply additional parts always comes from the downstream operations. | | | | | |
| Standardization practices | | | | | |
| The firm has standardized and rationalized the range of materials, parts and consumables | | | | | |
| The firm always employs quality assurance at all times | | | | | |
| The firm encourages quality control activities in all its production stages | | | | | |
| Behavioral practices | | | | | |
| The firm has always broadened the experience of work to enhance employee needs satisfaction | | | | | |
| The firm has multiple carrier ladders for its staff | | | | | |

| | | | | | |
|---|--|--|--|--|--|
| The firm always encourages high employee participation | | | | | |
| The firm has many and flexible employee incentives | | | | | |
| The firm always encourages quality of working life emphasis | | | | | |

3) To what extent do you agree with the following statements in relation to lean and agile procurement and performance in EABL? (Key: 1=strongly disagree, 2=disagree, 3=Neutral, 4=Agree, 5=Strongly Agree)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Lean and agile procurement deliveries are flexible and lean in order to meet changing demand in a demand driven supply chain | | | | | |
| Lean and agile procurement reduces waste | | | | | |
| Lean and agile procurement sheers cost of disrupting production | | | | | |
| Lean and agile procurement reduces lead time | | | | | |
| Lean helps to minimize new product development time and expense | | | | | |
| Lean promotes the use of less capital-intensive machines, tools, and fixtures, which results in more flexibility and less initial cost to recover | | | | | |
| Lean and agile procurement systems allow a supply chain to not only to be more efficient, but also faster and responsive | | | | | |

Part C: Organizational Performance

4) What has been the trend of the following aspects of performance in your company for the last five years?

| | | Greatly Improved (5) | Improved (4) | Constant (3) | Decreasing (2) | Greatly decreased (1) |
|---------------------------------|-----------------------------------|----------------------------|-----------------|-----------------|-------------------|-----------------------------|
| Financial | Profitability | | | | | |
| | Growth | | | | | |
| | Stability | | | | | |
| Customer | External customer Satisfaction | | | | | |
| | Internal customer Satisfaction | | | | | |
| | Market share/premiums | | | | | |
| | Environmental aspect | | | | | |
| | CSR | | | | | |
| Internal business process | Research and development | | | | | |
| | Technological capacity | | | | | |
| | Business efficiency | | | | | |
| Learning and growth | Human resource development | | | | | |
| | Organization competency | | | | | |
| | Informatization | | | | | |

END OF QUESTIONNAIRE

Thank you for taking your time to fill it.

