

FACTORS AFFECTING IMPLEMENTATION OF LEAN PROCUREMENT IN MULTINATIONAL ENTERPRISES: A CASE STUDY OF BRITISH AMERICAN TOBACCO (KENYA)

Geoffrey Ondari Nyakagwa

Taita Taveta University College, Kenya

Denis Kamau Muthoni

Cooperative University College of Kenya, Kenya

CITATION: Nyakagwa, G. O. & Muthoni, D. K. (2014). Factors affecting implementation of lean procurement in multinational enterprises: A case study of British American Tobacco (Kenya). *International Journal of Social Sciences and Entrepreneurship*, 1 (11), 395-417.

ABSTRACT

Lean Procurement is an inventory reduction method in which a customer reduces the inventory exposure by just-in-time material shipments from the suppliers. The customer may also choose to reduce the inventory exposure by arbitrarily reducing the inventory in the supply chain. Generally, Lean Procurement implementation focuses on getting the right things to the right place at the right time in the right quantity to achieve perfect work flow, while minimizing unnecessary waste while it remains flexible. Procurement is a function of myriad variables both internally and externally and therefore procurement personnel invariably put in place integrated, cohesive, well-harnessed and conceptualized systems which add value to their respective businesses an attribute which is conspicuous with Lean procurement tactics. Implementing lean procurement will help; eliminate waste, increase capacity, reduce inventories, increase customer satisfaction, eliminate bottlenecks, improve communications in general core activities of the organization and general improvement of efficiency and effectiveness in functional operations. To establish the factors, the study relied on the specific objectives which included; identifying the effects of internal structures in the implementation of lean procurement, examining the effects of rationalization of suppliers in the implementation of lean procurement, and analyzing the effects of efficient inbound logistics in the implementation of lean procurement in organizations. Utilizing descriptive survey research design and questionnaires to collect primary data from 300 respondents, the study successfully establishes there are factors that hinder implementation of lean procurement in multinational enterprises and that anchoring lean procurement in any organization will ease the procurement process.

Key Words: *Lean, Lean Procurement, Organization, Management, Enterprise*

Introduction

As procurement becomes more critical and actively being involved in the mainstream affairs of enormous companies across the globe, this attribute calls for strategic ways and means to perfect the holistic function. Cost efficiency and better productivity has always been a major issue in procurement but in the hype of today's ever increasing competition in the market, Lean procurement has become indispensable area which invariably brings forth some semblance of efficiency in various companies. It is imperative to note that strategic procurement approaches in the contemporary business environment are susceptible to world class business options which are embraced by the successful companies in the market (Lyson, 2000).

Lean procurement has its origin in Toyota Motor Corporation and their Toyota Production System (Liker, 2004; Womack, Jones & Roos, 2007). The term lean was coined by John Krafcik in the late 1980's (Lean Enterprise Institute, 2009), but the philosophy came to the Western world's attention in the beginning of the 1980's as the automobile industry suffered by the competition from Japan with low prices and excellent quality (Licker, 2004). As a contrast to the mass production system (Womack et al., 2007), lean needed half the human effort, manufacturing space and capital investment where strong partnerships with suppliers were essential (Liker, 2004). Instead of learning new practices, trade barriers and other impediments were set up before it was realized that Toyota and their production system was the new guideline to follow for improved quality, productivity and flexibility (Womack et al., 2007).

Along with Toyota's success and the increasing awareness of lean, a global transformation was triggered in almost every industry to lean manufacturing and supply chain philosophy methods (Liker, 2004). Lean has successfully been applied in other industries than the automobile, such as the service industry, healthcare and government, and continues to evolve and spread (Bowen & Youngdahl, 1998; Larsson, 2008). For instance Liker (2004) emphasizes that lean also efficiently can be applied in all business processes, including procurement. Additionally, supplier relationships are of high importance in lean for its success and generally, the supplier plays a vital part in order to survive in the increasingly competitive market place.

Lean aims to make the work simple enough to understand, do and manage. To achieve these three goals at once there is a belief held by some that Toyota's mentoring process is one of the best ways to foster Lean Thinking up and down the organizational structure. This is the process undertaken by Toyota as it helps its suppliers improve their own production. The closest equivalent to Toyota's mentoring process is the concept of "Lean Sensei," which encourages companies, organizations, and teams to seek outside, third-party experts, who can provide unbiased advice and coaching, (see Womack et al., Lean Thinking, 1998).

Lean Procurement implementation is therefore focused on getting the right things to the right place at the right time in the right quantity to achieve perfect work flow, while minimizing waste and being flexible and able to change. These concepts of flexibility and change are principally

required to allow production leveling, using tools like SMED (but have their analogues in other processes such as research and development. The flexibility and ability to change are within bounds and not open-ended and therefore often not expensive capability requirements. More importantly, all of these concepts have to be understood, appreciated, and embraced by the actual employees who build the products and therefore own the processes that deliver the value. The cultural and managerial aspects of Lean are possibly more important than the actual tools or methodologies of production itself. There are many examples of Lean tool implementation without sustained benefit, and these are often blamed on weak understanding of Lean throughout the whole organization. (Liker 2004)

It is worthwhile to note that procurement is a function of myriad variables both internally and externally and therefore procurement personnel invariably puts in place integrated, cohesive, well-harnessed and conceptualized systems which add value to their respective businesses an attribute which is conspicuous with Lean procurement tactics. In line with these unprecedented buying mechanism, procurement personnel primarily focuses on decisions regarding outsourcing, supplier network, relationship with suppliers, just-in-time procurement, information technology for instance use of electronic data interchange (EDI) and most importantly customer service (Howard, 2004).

Lean procurement success incorporates lean manufacturing principles which center on the foundation of level production. The ability to achieve this is based on many things, including comprehensive knowledge of customer demand, robust and proactive demand planning systems, and material availability. With the implementation of marketplace pull systems and the use of kanban, it is important to validate the accuracy of material demand signals. Kanban cards become the link between meeting the customer demands and the material available for production. As these systems grow there arises the need to manage the Kanban Card Count. Manufacturing must address this issue to ensure that the cards in the pull system reflect the current demand and level scheduling plan (Larsson, 2008).

In examining the lean procurement and lean manufacturing co-dependency in the SCM, it's appropriate to look at the joint manufacturing and supply issue of marketplace and in-process inventory reduction as an ongoing manufacturing improvement. With the lean manufacturing environment, inventories are among the most visible areas of potential waste and improvement. The image of lowering the water in the stream to reveal the stones of opportunity for improvement is a common one applied to inventory reduction. Improvements in manufacturing efficiencies as a result of the lean techniques provide the opportunity to reduce the safety stock on hand (Womack et al., 2007).

With the success of Lean within early adaptive companies, comes the desire for fence-sitting companies to realize the benefits of Lean. Knowing that Lean works, these companies look for change management opportunities and tools that can help their cultures adapt so that they can succeed in transforming themselves to Lean (Womack et al., 2007). The Lean process looks for a

change transformation process that results in sustainable change. We need to identify opportunities where the Lean change process can be effective. Shaping the vision for Lean requires that we look first at the goals of the organization and then for ways to help the organization optimize those goals. This requires a Lean study of both growth opportunities and error correction opportunities (Liker, 2004).

The commitment to implement lean procurement in the multinational enterprises requires team identification and teambuilding efforts. It means identifying and setting aside the resources that will be required for this effort. It means getting management commitment to facilitate the Lean effort. Preparing a plan requires timelines and schedules; it requires a plan of attack with specific steps; it requires the agreement and support of management all the way to the top so that there are no delays or disruptions to the change management process. Monitoring the implementation of Lean procurement process requires checkpoints and measures. It is about checklists and action items to make sure that all the concerns of the team are resolved and that action is taken on every activity.

Change systems and structures for Lean implementation require ownership and commitment from top management down to the workers on the floor (Larsson, 2008). The teams need to own the implementation process, and they need to be excited about it so that they will maintain it even after the management leaves. This is about putting structures and systems in place that continue to facilitate the Lean change management process by having all the necessary people properly trained in order to avoid future doubt or confusion about the process. And it is about making Lean procurement practices a lasting cultural change within the organization.

Today competitive pressure in multinational enterprises is not only to become a low-cost producer but how a company can become a lowest cost producer and achieve more with less. Implementing lean procurement therefore will help; eliminate waste, Reduce cycle and flow time., Increase capacity, Reduce inventories, Increase customer satisfaction, Eliminate bottlenecks, Improve communications in general core activities of the organization and general improvement of efficiency and effectiveness in functional operations.

Problem statement

Most linked to production is procurement, which plays an increasingly important role for an organization's profitability (Larsson, 2008). By an efficient procurement there is potential for substantial competitive advantages (Langley,2008) as the largest part of the cost of goods sold are in purchased raw materials, components, and services (Weele, 2002). The procurement function is transforming and gets broader in its context and it has recently been given more attention and is nowadays seen as a necessity in creating value stream excellence (Hines, 1996). This puts a higher focus on the supplier network as the key to competitive advantage and to share the commitment and the risks involved (Virolainen, 1998). Despite the large amount of capital investment allocated for procurement activities in these organization, there are still challenges on

how can procurement scale and improve its processes to minimize transactions, reduce total cost and work with the best possible suppliers who meet its requirements, Adopting lean within customer and supplier firms and how can business work to eliminate waste while adding value to its customers to achieve lean procurement (Larsson, 2008). To this extent therefore, despite the fact that working with lean procurement methodologies is achievable, it puts into question the commitment of these organizations to integrate lean procurement principles in their main stream operations and make lean procurement practices a lasting cultural change within the organization. This perennial problem has precipitated a decline of procurement/supply performance of enormous companies (Lyson, 2000). The researcher investigated these phenomena, thus was a more specified study of lean procurement in the perspective of multinational enterprises and further investigated what factors that might be affecting the implementation process at British American tobacco Kenya Ltd.

General Objective

The general objective of this study was to establish factors affecting implementation of lean procurement in multinational enterprises.

Specific objectives

1. To identify the effects of internal structures in the implementation of lean procurement in the organization.
2. To examine the effects of rationalization of suppliers in the implementation of lean procurement in the organization.
3. To analyze the effects of efficient inbound logistics in the implementation of lean procurement in the organization.
4. To analyze the impact of continuous improvements and development in the implementation of lean procurement in the organization.

Literature Review

Theoretical literature

Internal structures

Its focuses on how the organization's internal lean work supports the implementation of lean procurement and further describes important and permeating concepts for the entire lean procurement transformation, such as waste reduction and continuous improvements.

Implementation of lean: The best place to start the implementation of lean, and thus the first and natural step of going lean, is in the company's own factory where most of the internal value is created and no external suppliers or customers are involved (Hobbs, 2004). In a multinational enterprise lean is initially implemented in manufacturing operations and that external activities comes in second hand, which is in line with (Liker 2004) that not to involve the procurement function entirely until later stages. A reason for not involving the procurement function in earlier stages is in order to be able to involve and motivate suppliers in the process, the buying company must be able to show credible results of their own lean work, a number of concepts and details need to be mastered for the implementation, and thus emphasize the importance of education and training. This is in line with Hobbs (2004) that discusses the fact that it is easier to not include suppliers in the first stages of the lean transformation.

Achanga, Shehab, Roy and Nelde (2006) found four critical success factors when they studied the implementation of lean. The first factor, strong leadership and management, facilitates the integration of all infrastructure in the organization and good leadership fosters effective skills and knowledge among workers. The second factor, financial capabilities, is as in any project a key for success and is required for training and also needed for eventually hiring consultants. Skills and expertise is the third factor and is critical for the success as some technicalities and applications of lean requires skilled employees. The fourth is the organizational culture and is an essential platform for the implementation of lean where a culture of sustainable and proactive improvements is characteristic for high-performing companies.

Most important is the leadership and management, which is the cornerstone of the implementation. A lack of an ideal management team inhibits aspects like workforce training and benefits of improvement in knowledge, skills and cultural awareness. Achanga et al. further mean that these factors are the elements for a supportive organizational culture that is needed for the implementation of lean, and thus also for the implementation of lean procurement.

Leadership and commitment from the management is crucial for the implementation (Liker 2004). Reasons for a less successful implementation of lean is the lack of systems thinking, which is linked to Mason (2007) as well, who states that lean is more than just a set of tools as it is about how you approach your job, customers, suppliers and processes. According to Liker (2004) the systems thinking refers to lean as a philosophy which needs to be fully understood, which is supported by Bashin and Burcher (2006), as they state that many companies fail because they see lean as more of a process.

It is important for the implementation of lean to have a clear vision of what the organization will look like after the transformation with a strategy of change and clear set goals that are communicated to the staff. It seems that the major difficulties when applying lean are a lack of planning and project sequencing. However, as the culture takes hold, lean is spread by the person who leads to commitment and cooperation to the lean work (Liker, 2004).

Elements of lean: Larsson (2008) and Liker (2004) state that lean is advantageously applied in all functions of the organization and that the principles, methods and tools are generally the same, but to some extent differing in emphasis and reflections. However, lean is just as important in administrative support processes, like procurement, as in the production because of the aim to permeate the whole organization.

Just in Time: Just-in-time is the first element and can shortly be described by delivering right parts in right amounts at right time (Womack et al., 2007). The pull system, tact time and continuous flow are the three operating elements of just-in-time (Lean Enterprise, 2008). The pull system, referring to only produce what is needed and when it is needed, is relying on the Kanban system as a control system (Liker, 2004; Arnold & Chapman, 2004).

Waste reduction: The heart of lean can be seen as eliminating waste (Liker, 2004), and in order to understand waste, three types of activities are important to define (Hines & Taylor, 2000):

1. Value adding activities: These are activities that create value for the final customer, simply defined as what the customer are willing to pay for.
2. Non value adding activities: these are activities that do not create value for the final customer and is not necessary to exercise in any circumstance. These activities should be targeted for removal within a short time.
3. Necessary non value adding activities: These are activities that do not create value for the final customer but necessary unless radical changes are made. These activities are harder to remove but should be targeted for removal but in a longer term or by a radical change.

An easy method for waste reduction is the 5S method that is a series of five main activities that in a systematic way creates an effective work place by discipline, cleanness and well-order (Chapman, 2005; Liker, 2004).

People and teamwork: Liker (2004) means that the understanding of people and human motivation and the ability to cultivate leadership, teams, and culture are important success factors for lean. According to Womack et al. (1990) a main feature is teamwork which makes it possible to react quickly to found problems and to understand the plant's overall situation. According to Womack et al., dynamic work teams enable education of the workers in a wide variety of skills, such as quality-checking, simple machine repair and materials-ordering. Liker (2004) also stresses the fact of creating work teams and upholding a culture within the company in order to get an efficient work group. Liker explains that the teams coordinate the work, motivate and learn each other and all systems should enforce the teams that are actually doing the value-added work. With the right foundation and teamwork as a ground, individuals will give their hearts and souls to help the company to be successful (Womack et al., 1990).

Rationalization of suppliers

It focuses on the aspects of the elaboration and rationalization of the supply to facilitate further lean work in the procurement function.

Sourcing, selection and classification: Supplier relations can be on very different levels of involvement and duration (Langley et al, 2008). They exemplify it by referring to parties in close relationships, who are willing to modify objectives and practices to achieve long-term goals and objectives, and the contrast of a much less integrative and collaborative relation that could be desirable for purchases of standard products. Thus are parameters like value, demand, importance, etc. of products essential when supplier relations are formed. For instances purchases of maintenance, repair and operating supplies may be repetitive and low in value, and of course not handled in the same manner as more expensive and important products for the company (van Weele, 2002). Considering that purchased products from suppliers stand for a significant part of a company's total costs, there is a great impact on customer satisfaction and profitability of how they are selected and managed (Lysons, 2006).

An ABC-classification, described by for instance Arnold and Chapman (2005), is suitable to establish what kind of relation is suitable for the products or components, where A-products (a small share (20%) of the products that stand for most (80%) of the total value) is more suitable for a close relationship or partnership. C-products (a large share of the products that stand for a very small share of the total value) may have more of a relation that is at arm's length and B-products (somewhere in between A and C-products) somewhere in between. Van Weele (2002) also refers to the 20-80 rules, which the ABC-classification is based on, and the finding that 20% of the suppliers or products represent 80% of the purchasing turnover. Suppliers and products are classified in four quadrants; routine, bottleneck, leverage and strategic, based on supply risk and impact on financial results (Lysons, 2006).

Another matter that Liker and Choi (2006) mention is how components or raw material should be sourced. Lean is much linked to single sourcing where local suppliers are preferred (Liker, 2004). On the other hand, dual or multiple sourcing creates a healthy competition, and by using more than one supplier, the customer is not dependent on only one source (Liker & Choi, 2006). By single or dual sourcing, the supplier can achieve economies of scale and get help in for instance developing innovations and then share the gains with the customers.

What needs to be emphasized is lean's philosophy of supplier relationships that should be built on commitment and mutual trust, and assessed with a long term focus (Bhasin & Burcher, 2006). Further, the multiple selection criteria, focusing on quality, delivery and costs, are important aspects for the supplier selection and classification (Womack et al., 2007).

Reducing suppliers and components: Considering the increasing competition, the interactions with suppliers have an increasing significance as well (Bergdahl, 1996). Many companies have responded by reducing the supplier base and increased attention and resources to the remaining suppliers (Liker, 2004). The lean practice is to work with few and reliable suppliers that offers a wide range of components.

However, rationalizing suppliers, establishing partnerships and working with supplier development is a waste if you have components that not even should be there Bicheno (2007). Thus, rationalizing components is important and should be done early which also eases later efforts of improvements. Bicheno emphasizes the purchasing manager's role in this, who should coordinate this work. But also the R&D, quality, and production function, etc., should also communicate with their corresponding counterpart.

Efficient inbound logistics

The objective of lean logistics is to deliver the right materials to the right place in the right quantities in an efficient way. Lean inbound logistics is thus to get parts from suppliers with the same objective. The aim of lean linked to logistics is to facilitate a chain that responds rapidly, makes to order and has low inventory levels. Thus is an efficient inbound logistics one part of achieving it (Bicheno 2007).The shorter the lead times the better it is for lean in the supply chain which put demands on short setup times and flexibility in the manufacturing processes, for instance by quick changeovers and a flexible workforce with multi-skilled personnel (Liker, 2004).

Transportation: There are some challenges regarding transportation in lean. For instance distant suppliers and especially international freight create difficulties for lean due to their often long lead times. Further, due to the small batches in lean and the reduction of inventories, transportation is often affected by frequent shipments (Wilson & Roy, 2009). Distant suppliers mean higher levels of inventory and less frequent shipments. Frequent shipments and long distances make it hard to keep the costs down, and lead to a higher burden for the environment. However, partnerships or closer relations with carriers and logistics providers are common to promote efficient deliveries and pick-ups (Gubbins, 2007).

One popular method used to promote predictable lead times, small batches and reduction of inventories are milk runs (Baudin, 2004). A milk run speeds up the flow of material between facilities, for instance between a company and its suppliers. The concept is well applied in lean logistics to enable small-lot replenishments between facilities along the value stream by frequent less-than-truck-load quantities. A vehicle is used to make multiple pick-ups and drop-offs at the connected facilities instead of waiting to accumulate a truckload for direct shipments between two facilities (Lean Enterprise Institute, 2008). Milk runs give predictable lead times, reduced inventories and improved supplier communication and trust. They also give shorter response time along the value stream, creating flexibility in changing demands and ultimately eliminate

waste and enable fast improvements (Bicheno, 2007). The milk runs can thus be used to enable the kanban system with suppliers or the consignment inventory.

Consignment inventories: Suppliers are required in lean to maintain stocks of their components at the buyer's facility, near the buyer (for instance warehouses close by) or holding inventories at their own facility (Srinivasan, 2004). According to Srinivasan (2004), consignment inventories are used to reduce lead times from suppliers where the suppliers place inventories on consignment but are not delivered until they are consumed, which benefits the buyer who does not need to pay until it is actually used in production.

If consignment inventories are applied correctly, they are efficient to reduce Bullwhip effects, (Bicheno 2007), and further important for consistent quality, shorter lead times and enhanced visibility. Instead of sending orders, the customer sends information of the inventory to the supplier where the actual level is compared to the order point, which has been established to ensure that the materials supply is sufficient. When the actual inventory level is below the order point, the supplier delivers the difference to the agreed Order-Up-To-Point. This method could be well applied at all levels in the supply chain where a combination with milk runs is efficient.

As the inventory ownership is handled on a consignment basis, it places the excess inventory at the supplier, which encourages a lean environment (Lysons, 2006). However, its implementation can give resistance from the parties and requires a collaborative relationship where trust is vital (Srinivasan, 2004). Multinational enterprises have great interest and effort in regard to traceability of orders since they are normally large and attract large capital investment.

Continuous improvement and development

It focuses on the interaction between the customer and its suppliers for joint activities. In order to improve processes in the supply chain there is a need for serious investments in order to create a culture of continuous improvements and joint learning and a network for disseminating knowledge (Liker & Choi, 2006). However, it is usual that the customer gets most of the benefits, which should be shared in order to be even more successful in the long run. Liker and Choi (2006) emphasize that it is not about maximizing profit on the suppliers, the aim is to create a win-win situation where the buyer eventually benefits by price reduction and the supplier gets cost savings.

It focuses to improve quality, delivery and costs between the customer and the supplier where information is essential to facilitate a continuous improvement and development (Hines, 1996b). Joint efforts to reduce costs and rationalizing the value-adding processes can be made as soon as the information sharing is working. Supplier development and support ultimately aims to get capable suppliers and to create improvements in the supply chain (Baudin, 2004). Supplier development can be defined as, "any activity undertaken by a buying firm to improve either supplier performance, supplier capabilities, or both and to meet the buying firm's short- and/or long-term supply needs."

Eventually the supplier development leads to innovative suppliers where their ability to develop products is increased. If this is efficiently done, long-term suppliers can develop components independently. In lean the parties work closely in the product development process where the suppliers develop their capabilities to meet the high requirements and become a valuable resource (Liker 2004).

Kaizen events with suppliers: A kaizen event conducted with a supplier is a method in lean regarding supplier development and support and arranged by the supplier support group (Baudin, 2004). Most kaizen events are done with key suppliers but some companies focus on doing it with its small suppliers (Handfield et al., 2000). Baudin emphasizes that it is more than just facilitating the kaizen events in order it to be effective. The supplier support group must have sufficient knowledge and skills to meet all the different challenges the suppliers can face. Many small kaizen events can give significant benefits without major re-sources (Handfield et al., 2000). The kaizen events at supplier's facilities enable open communication channels, improve the relation-ship and reduce costs.

Handfield et al. (2000) suggest that the first kaizen events preferable are rather simple to foster the supplier's commitment. Kaizen events are also used as baselines for new contracts and the reduced costs that the suppliers achieve must be shared with the customer as well (Liker and Choi 2006).

The supplier association: The supplier association is an important mechanism when it comes to lean procurement, (Hines1996a), who explains that it is a gathering of a company's most important suppliers that is brought together on a regular basis to develop cooperative attitudes, coordinate activities, share business strategies, engineering and cost information in order to create collaborative forces. Liker 2004 emphasizes that the members in the supplier association are not necessary the biggest suppliers as they, with own re-sources, may have less to profit and to gain.

Features of the supplier association are common projects, assistance in areas of expertise, developing common standards, education, exchange of employees, hiring consultants and educators, and visits to sites within the association or to other companies (Bicheno, 2007). Trust and commitment is enforced among the companies by the supplier association and helps suppliers to understand the requirements of their customer and foremost the end consumers.

Empirical studies

The empirical literature encompasses the need for implementation of lean procurement approaches and how they contribute to increased levels of quality, delivery and reduced costs and moreover establishing a continuous improvement culture. Lean procurement is total procurement optimization process. To develop a lean supply chain, there is need to apply lean procurement to the supply chain as a system (Liker 2004). Previous researchers in the area of lean

supply chain have identified that Lean procurement is an approach that identifies the value inherent in specific products, identifies the value stream for each product, supports the flow of value, lets the customer pull value from the supplier and pursues perfection. It is through this holistic, enterprise-wide approach to lean procurement implementation that the theory extends beyond functional strategy to a broader supply chain strategy employed by multinational organizations (.Wilson, M., & Roy, R. 2009). The strengths of lean approach are lean's more immediate and practical focus on waste, flow and flexibility. A lean organization optimizes the flow of products and services to its customers.

In Porter's value chain, procurement is one of the supporting activities where the purchased inputs could both be related to primary activities (inbound logistics, operations, outbound logistics, marketing and sales, service) and the other supporting activities (firm infrastructure, human resource management, technology development) (Porter, 1998). The function of purchasing interacts, if it is carried out effectively, with all departments as inputs from marketing, engineering, manufacturing, etc. are needed in order to choose the right purchased product (Arnold & Chapman, 2004). Inbound logistics, which includes activities associated with receiving, storing and disseminating inputs, may be the primary activity with the strongest link to procurement.

A research on lean procurement at nestle a multinational enterprise concluded that, by anchoring lean procurement in the organization it eases the involvement for the procurement function. It does not only give experience and knowledge about lean but also an opportunity to motivate and influence suppliers to be involved. Quality, delivery and costs are central during the entire process, mostly linked to supplier performance and selection (Lean Enterprise Institute, 2009). Important is to identify and decide which suppliers will be included in the lean procurement work. Integrating suppliers and creating mutual benefits by joint improvements and development with suppliers give significant opportunities for lean procurement but have several hinders as well.

Research Methodology

Research design

The study used descriptive research design, which involved collecting information by interviewing some respondents and administering questionnaires to others. Descriptive research studies are those studies which are concerned with describing the characteristics of a particular individual or of a group. Studies concerned with specific predictions, with narration of facts and characteristics concerning individual, group or situation are all examples of descriptive research studies (Kothari, 2008). Descriptive research design is also a more just data collection since it involves measurement, classification analysis and interpretation of the data

Target population

The population on focus in this study comprised the employees of British American Tobacco Kenya in the Procurement and supply chain department. The researcher targeted those in the Procurement and supply chain department but still obtained views from those in five other supporting departments of Finance, Marketing, Administration, Production and Human resource to obtain a holistic view on lean procurement in the organization. The study targeted 300 respondents which included an average of fifty (50) employees in each of the six (6) departments.

Sampling Techniques and Sample Size

To constitute a structured sample, the researcher used stratified method since population to be sampled was heterogeneous. The researcher also used stratified sampling which provided greater precision geared to bring forth proportionate stratification whereby each stratum had the same sampling fraction (Kothari, 2004). In this technique the population was stratified into a number of strata and sample item were selected from each stratum. The simple random sampling was used to select sample respondents from the entire target population. This ensured that each member of the target population had an equal and independent chance of being included in the sample. A sample in research study refers to any group on which information will be obtained. According to Mugenda and Mugenda (1999) a minimum of 30% of the target population should be included in the sample when dealing with heterogeneous sample. To get the sample size the study calculated 30% of the 300 of the population under the study to arrive at 90 respondents. The sample sizes were evenly distributed to avoid bias of research feedback. This was important for the study as it gave a balanced perception of the study variables that were investigated

Data collection instrument

Both primary and secondary data was used for the study. To obtain the primary data, the instruments employed were questionnaire and informal interview. A questionnaire is a research instrument that gathers data over a large sample (Kothari 2008). Prewritten questions were served to respondents and given a chance to fill both open and closed ended questions. Closed ended questions were used to get relevant answers to the research. Open ended questions intended to give the respondents freedom to satisfactory respond to the questions exhaustively.

Data analysis procedure

Data analysis is the process of bringing order, structure and meaning to the mass of data collected (Mugenda and Mugenda, 2003). In the analysis of data the study used both qualitative and quantitative techniques. The aim of qualitative analysis was to analyze information in a

systematic manner in order to arrive at useful conclusions and recommendations. Data was quantified using graphs, percentages, frequencies and pie charts.

Research Findings

Demographic Data

The researcher had through the questionnaire requested the respondents to indicate the period of time in which they have been at British American tobacco Kenya. According to the data collected and analyzed in the table 4.2, 77.3% of the respondents have been in the organization ranging from months to 15 years. The rest of the respondents which comprise 22.7% have been there for more than 15 years. Relevance of this analysis in relation to how it affects lean procurement implementation in the organization and achieving of the research objectives by the researcher is that the findings show that the company has a balanced number of employees who are able and have diverse understanding of lean procurement trends. The organizational culture is an essential platform for the implementation of lean where a culture of sustainable and proactive improvements is characteristic for high-performing companies. An ideal team should have good workforce training and benefits of improvement in knowledge, skills and cultural awareness. This means that these factors are the elements for a supportive organizational culture that is needed for the implementation of lean, and thus also for the implementation of lean procurement. Therefore the researcher was interested to know what culture the employees have developed or operated in for the period of time they have been in the organization and how their stay have affected the implementation of lean procurement.

Effects of internal structures

The researcher wanted to establish the degree in which the organization's internal structures at BAT-K influences or affects the implementation of lean procurement and by reviewing some of the practices that would otherwise ensure its adoption and permeating its concepts for the entire lean procurement transformation. Based on the findings the researcher sort to establish whether there was quality management team for inspection of goods, too much bureaucracy in decision making, satisfaction of functional level staff with the management of the organization, involvement of junior staff in major decision making and finally a lean work force. On average 35% of the respondents strongly agreed, 26% of them agreed, 9.6% of them were not sure, 20% disagreed and 9.4% of them strongly disagreed.

The relevance of these findings to realizing the objectives of the research and how it affects the implementation of lean procurement in the organization is that much of the key variables that are related to characteristics of lean procurement are put in place however the researcher realized that processes and systems are not fully put into practice to realize full potentials of lean procurement in the organization. Having proper supporting internal structures in the organization's internal lean work supports the implementation of lean procurement and further

describes important and permeating concepts for the entire lean procurement transformation. Thus indeed the internal structures of the organization is a key determining factor in the implementation of lean procurement in the organization.

Effects of Rationalization of Suppliers

The distinct rationalization of suppliers factors the researcher sort to establish whether, there was transparent methods of prequalifying suppliers, the organization sourced goods from a single supplier, regular meetings were held with suppliers to develop a good relationship, supplier prequalification was done on yearly basis and if there was a classification of suppliers. From the basis of findings we can attest that an average percentage of 22.2 strongly agreed to the variables, 23% agreed, 16% of the respondents were not sure, 30.8% disagreed and 8% strongly disagreed to the approaches sort by the researcher.

The significance of the above research findings to the research study and objectives is that, the researcher was able to deduce that key aspects related to rationalization of suppliers were not incorporated in the activities of the organization in which case rationalization of suppliers is fundamental to the implementation of the lean procurement process. This has been manifested by the fact that over 50% percent of the respondents did not agree with having in place key elements of supplier rationalization. The lean procurement practice is to work with few and reliable suppliers that offer a wide range of components and responded by reducing the supplier base and increased attention and resources to the remaining suppliers. This means that the aim is to reduce the numbers of suppliers where an example is to eliminate the tail of the Pare-to curve, where 20% of the components are delivered by 80% of the suppliers. Thus, rationalizing suppliers is important and should be done early which also eases later efforts of improvements.

Effects of efficient inbound logistics

The researcher sort to establish how inbound logistics affects the implementation of lean procurement at BAT-K. Table 4.5 below provides a graphical presentation of the findings.

The researcher was concerned to know if organization supplies were received on time, suppliers inventories were maintained at the organization facilities, whether there was frequent shipment of inventories inbound, use of mil-runs to pick supplies and whether most of the suppliers were located far from the organization. According to the data collected and analyzed, an average percentage of 10 strongly agreed, 23% agreed, 17.4% were not sure, 39% disagreed and 10.65% of the respondents strongly disagreed.

The significance of the above findings to the research study and objectives is that the researcher established lack of the organization to have efficient inbound logistics to the organization as majority of the respondent were against any practices of efficient logistics being used. The objective of lean inbound logistics is to, in an efficient way; deliver the right materials to the right place in the right quantities. Lean inbound logistics is thus to get parts from suppliers with

the same objective. The aim of lean linked to logistics is to facilitate a chain that responds rapidly, makes to order and has low inventory levels. Linked to these aims is that the ultimate lean supply chain is pulling from very beginning to the very end based on actual consumption. Thus is an efficient inbound logistics one part of achieving lean procurement and there for is one of the major factors that and elements that affects the implementation process.

Effects of Continuous Improvements and Development

The researcher wanted to ascertain whether the organization has put into practice the features of continuous improvement into its operation and thus specifically concentrated on factors such as knowledge sharing, supplier association, kaizen events with suppliers, resource allocation and quality control. According to the research findings, on average 47% acknowledged that the aspects were always put into operational practices, 45% of them were of the opinion that it was done occasionally, while 8% of them denied the incorporation of the practices in the organizations operations.

Of significance the above results are to the research objective, the researcher is able to understand that there is a disconnect with the frequency at which a key aspect in achieving lean procurement in the case continuous improvement elements are incorporated in the mainstream activities of the organization which affects the implementation process. Continuous improvement is enabled by sharing knowledge which can be done in several ways, such as education, conferences, etc. but also a supplier association facilitates joint learning in the network. Knowledge sharing also assures that suppliers have the right capabilities, which is the core of supplier development, and supplier association enables improved relations with for instance increased trust as a result. Continuous improvement events give the opportunity for improvements for both the buyer and its supplier and thus mutual benefits which if properly incorporated in the systems operations will help fast track the implementation process of lean procurement.

Rate of idea generation per employee

In this case the researcher wanted to establish the degree at which every employee came up with new innovative ideas on yearly basis. The variables posted on the questionnaire were, very high, high, moderate, low and very low. According to the data collected and analyzed, majority of the respondents were of the opinion that the rate of idea generation was moderate posting a 50% representation of the questionnaire while an average of 20% was on the higher side of idea generation, however an average of 5% respondents were of the opinion that there is a lower generation rate of ideas per employee on yearly basis. These findings were important to the research study in that the researcher was in a position to establish the contribution of employees to the continuous improvement aspect in the organization which is a fundamental factor in the implementation of lean procurement in the organization.

Operating problems emanating from suppliers

The researcher wanted to establish the frequency with which operational problems are brought about by supplies from the suppliers and also the purchase of these supplies thus how they affected the achievement of lean procurement practices. Findings indicated that these problems are less often from the supplies. This is put forth by high degree of 68% of the respondent who termed them as less often and a 30% rate posted a quite often response. However 2% of respondents were of the opinion that none of the problems in operations were brought about by the supplies or the purchase of the supplies.

Analysis on lean procurement

In these case the reseracher sort to establish implementation of lean procurement by reviewing whether lean procurement attributes were being embraced by the organization. The researcher was specifically concerned about issues of waste reduction, Just-in-time, standardized processes, technical analysis and quality analysis. According to the results of data collected and analyzed on average 43% of the respondents were of the opinion that the attributes were always embraced, while 48% were of the opinion that implementation was done occasionally. However an average of 8% felt that these attributes were never incorporated to achieve lean procurement practices.

While considering key variables which affect the implementation of lean procurement i.e. internal structures, rationalization of suppliers, efficient inbound logistics and continuous improvement, the researcher went ahead and further make an analysis of important elements that are linked to lean procurement and are of major importance in the implementation process which included waste reduction, just in time, standardization of processes, technical analysis and quality analysis. The main difference between organization with lean procurement culture and those without is how they manage the supply chain. This means that a lean organization uses fewer suppliers and involves them in joint improvements and development. The targets are also very clear for suppliers regarding quality, delivery and costs which also enables a simple but efficient selection and implementation process. Thus the above analyses were significant to capture a holistic approach to lean procurement and provide methodologies on how to best go about the implementation process.

The overall rate of commitment to implementation of lean procurement by the procurement and supply chain department

The researcher came up with questions based on the overall rate commitment to the implementation of lean procurement by the procurement and supply chain department of British American Tobacco Kenya. The variables were based on very good, good, fair and poor. From the findings we establish that 60% of the respondent termed the commitment of procurement department of British American Tobacco Kenya as good while 30% of the respondent considered the function to be fair. 8% of the respondents were in favor of the function being an excellent

function in terms of procurement activity provision. Only 2% of the respondents were not satisfied by the commitment of the procurement and supply chain department of the company and to this extent the department was termed as a poor function in terms of perfection of its activities.

The researcher was able to establish that though the department had over 50% approvals it may not be the key hindrance to the implementation of lean procurement probably due to the firsthand knowledge of its importance to the organization but probably from other supportive functional department however the department should put more effort towards achieving lean procurement.

Summary of Research Findings

The research study was carried out from seventy five respondents out of the targeted ninety respondents across all six departments of British American Tobacco Kenya. This represented a response rate of 83.3%. The data collected was classified, tabulated and clearly illustrated by the use of tables and figures. From the basis of comparative analysis the researcher was in a position to review and assess the effects of lean procurement approaches. Also the researcher was in a position to establish and analyze various factors that affect full implementation of lean procurement approaches and practices in the multinational enterprise. Recommendations were also made by various respondents on how to improve implementation of lean procurement approaches. The rationale behind establishing this recommendation was to help understand major impediments to the implementation process and subsequently propose an acceptable process by all stake holders towards establishing a lean procurement culture in the organization without resistance.

The research study was a success since most of the underlined objectives were achieved. The researcher was in a position to get three quarters of response from the targeted respondents an attribute that made the whole task of data collection to be exhaustively done. In order to get diverse opinions and perceptions of different personalities across a wide range in regard to lean procurement, the researcher requested the respondents to indicate the period of time in which they have been in the organization. 77.3% of the respondents had been in the organization ranging from months to 15 years. The rest of the respondents which comprised of 22.7% had been in the organization for more than 15 years. This findings show that the company has a balanced number of employees who are able and have diverse understanding of lean procurement trends.

In order to establish effects of internal structures, the researcher sort to have the knowledge of whether there was quality management team for inspection of goods, too much bureaucracy in decision making, satisfaction of functional level staff with the management of the organization, involvement of junior staff in major decision making and finally a lean work force. On average 35% of the respondents strongly agreed, 26% of them agreed, 9.6% of them were not sure, 20% disagreed and 9.4% of them strongly disagreed.

To have an understanding of effects of rationalization of suppliers the researcher sort to establish were whether, there was transparent methods of prequalifying suppliers, the organization sourced goods from a single supplier, regular meetings were held with suppliers to develop a good relationship, supplier prequalification was done on yearly basis and if there was a classification of suppliers. According to the research findings the researcher established that an average percentage of 22.2 strongly agreed to the variables, 23% agreed, 16% of the respondents were not sure, 30.8% disagreed and 8% strongly disagreed to the approaches sort by the researcher.

For purposes of understanding the effects of inbound logistics in the implementation of lean procurement at the multinational enterprise, the researcher was concerned to know if organization supplies were received on time, suppliers inventories were maintained at the organization facilities, whether there was frequent shipment of inventories inbound, use of mil-runs to pick supplies and whether most of the suppliers were located far from the organization. The results tabulated showed that an average percentage of 10 strongly agreed, 23% agreed, 17.4% were not sure, 39% disagreed and 10.65% of the respondents strongly disagreed.

The researcher was interested to know wanted to ascertain whether the organization has in place continuous improvement practices into its mainstream operation and thus specifically concentrated on factors such as knowledge sharing, supplier association, kaizen events with suppliers, resource allocation and quality control. According to the research findings presented, on average 47% acknowledged that the aspects were always put into operational practices, 45% of them were of the opinion that it was done occasionally, while 8% of them denied the incorporation of the practices in the organizations operations. Also in regard to the rate of new idea generation by employees, majority of the respondents were of the opinion that the rate of idea generation was moderate posting a 50% representation of the questionnaire while an average of 20% was on the higher side of idea generation, however an average of 5% respondents were of the opinion that there is a lower generation rate of ideas per employee on yearly basis. The researcher also established that the frequency with which operational problems are brought about by supplies from the suppliers and also the purchase of these supplies thus affecting the achievement of lean procurement practices had 68% of the respondent who termed them as less often and a 30% rate posted a quite often response. However 2% of respondents were of the opinion that none of the problems in operations were brought about by the supplies or the purchase of the supplies.

Finally the researcher sort to establish implementation of lean procurement by reviewing whether lean procurement attributes were being embraced by the organization. The researcher was specifically concerned about issues of waste reduction, Just-in-time, standardized processes, technical analysis and quality analysis. Going by the results of data collected and analyzed on average 43% of the respondents were of the opinion that the attributes were always embraced, while 48% were of the opinion that implementation was done occasionally. However an average of 8% felt that these attributes were never incorporated to achieve lean procurement practices.

Conclusions

By anchoring lean procurement in the organization it eases the involvement for the procurement function. It does not only give experience and knowledge about lean but also an opportunity to motivate and influence suppliers to be involved. Quality, delivery and costs are central during the entire process, mostly linked to supplier performance and selection. Important is to identify and decide which suppliers that will be included in the lean work. Geographically close suppliers have a major advantage by normally being able to provide short lead times and better support because of the geographical proximity. According to the analysis 39% disagreed on adoption of efficient inbound logistics which is concerned with the issues of proximity to the organization, thus concluding that it is a key factor affecting achievement of lean procurement practice in the multinational enterprise.

Integrating suppliers and creating mutual benefits by continuous improvements and development with suppliers give significant opportunities for lean procurement but have several hinders as well. The analysis posted a result of 47% of the respondents who strongly agreed that the practices in these category are put into practice, these means half of the respondents feel more has to be done to achieve full implementation of lean procurement hence we conclude that there has to be improved efforts and articulation of these aspects to achieve the objective thus being a key factor in the implementation process.

Recommendations

In order to have a full turn around in regard to implementing lean procurement approaches the company is duty bound to affect a lean workforce in the organization, reduce bureaucracy in decision making, eliminating waste in the supply chain by concentrating on value adding activities that create value for the final customer. Also the procurement and supply chain department and the organization management should Establish capable suppliers, encourage supplier development, Align systems to enhance better performance and also put in place proper working relationships. The subject of all these facets of lean procurement approaches should be based on a designed work plan that covers the holistic procurement functions. This procurement work plan should invariably be used as the reference point on issues based on acquisition of goods and services for the company.

Recommendations to improve on implementation of lean procurement

Findings show distinct recommendations geared to improve the implementation of lean procurement in the company. Align systems to enhance performance is given the first priority by being given 94.6%. Provision of better working relationship continuous improvement of procurement processes obtained 92% and 86.6% respectively. Supplier development and support was awarded 82.6% while establishing capable suppliers and reducing waste in the supply chain obtained 88%.

Regarding internal structures the recommendations are that the organization has to have a supportive organizational structure that will allow the implementation of lean procurement efficiently by fully integrating factors such as having a quality management team for inspection of goods, less bureaucracy in decision making, satisfaction of functional level staff with the management of the organization, involvement of junior staff in major decision making and also a lean work force.

Further recommendations regarding rationalization of suppliers are that the organization needs to adopt lean procurement practice by working with few and reliable suppliers that offer a wide range of components and responded by reducing the supplier base and increase attention and resources to the remaining suppliers. The approach can incorporate factors such as transparent methods of prequalifying suppliers, sourcing goods from a single supplier, having regular meetings with suppliers to develop a good relationship, supplier prequalification on yearly basis and last but not least a classification of suppliers.

The researcher also recommends better and efficient inbound logistical solutions that will result in faster responsiveness, low inventory and shorter lead times. Further recommendations are that most of the suppliers should not be located far from the organization facilities or operations and production sites to improve on lead times. As with regard to Continuous improvement the researcher recommends the organization to have knowledge sharing with suppliers, encourage more supplier association, have kaizen events with suppliers among others in order to efficiently implement lean procurement in the organization.

References

- Achanga, P., Shehab, E., Roy, R., & Nelder, G. (2006). Critical success factors for lean implementation within SMEs. *Journal of manufacturing technology management*, 17(4), 460-471.
- Arnold, J.R., & Chapman, S. (2004). *Introduction to materials management, 5th edition*. Pearson
- Baudin, M. (2004). *Lean logistics. The nuts and bolts of delivering materials and goods*. New York: Productivity
- Bowen, D., & Youngdahl, W. (1998). "Lean" service: in defense of a production-line approach. *International journal of service industry management*, 9(3), 207-225.
- Chapman, C. (2005). *Clean house with lean 5S*. *Quality progress*, 27-32.
- Gubbins, E. (2007). *Managing transport operation, 3rd edition*. London: Kogan page
- Hines, P. (1996b). Network sourcing: a discussion of causality within the buyer-supplier relationship. *International journal of purchasing and supply management*, 2(1), 7-20.
- Howard, T. (2004). *Strategic management research, 2nd edition*. London: Oxford University Press
- Kothari, C.R. (2004). *Research methodology, 2nd edition*. New Delhi: New Age International (P) Limited Publishers
- Langley, J., Coyle, J., Gibson, B., Novack, R., & Bardi, E. (2008). *Managing supply chains, 8th edition*. Cengage learning.

- Larsson, L. (2008). *Lean administration. Konsten att införa och praktisera Lean i administrativa stödprocesser*. Malmö: Liber.
- Lean Enterprise Institute, 2009. *What is lean*. Retrieved January 21, 2011, from <http://www.lean.org/whatslean>
- Liker, J. (2004). *The Toyota way: 14 management principles from the world's greatest manufacturer*. New York: McGraw-Hill.
- Liker, J., & Choi, T. (2006). Building deep supplier relationships. *Harvard business re-view on supply chain management*.
- Lysons, K. and Farrington, B. (2006). *Purchasing and Supply Chain Management, 7th edition*. London: Prentice Hall.
- Lysons, K. (2000). *Purchasing and Supply Chain Management, 3rd edition*. London: Prentice Hall.
- Mugenda, O. M. and Mugenda, A. G. (Eds.) (1999). *Research Methods, Quantitative and Qualitative Approaches*. Nairobi, Kenya: African Centre for Technological Studies.
- Porter, M. (1998). Competitive advantage. *Creating and sustaining superior performance*. New York: Free press.
- Van Weele, A. (2002). *Purchasing and supply chain management 3rd edition*. Thomson learning.
- Virolainen, V., (1998). A survey of procurement strategy development in industrial companies. *International journal of production economics*, 56-57, 677-688.
- Wilson, M., & Roy, R. (2009). Enabling lean procurement: a consolidation model for small- and medium sized enterprises. *Journal of manufacturing technology management*, 20(6), 817-833.
- Womack, J., Jones, D., & Roos, D. (2007). *The machine that changed the world*. New York: Free press.
- Womack, J.,P., Jones, D.,T., Roos, D., (1990). *The machine that changed the world*. New York: Macmillan Publishing Company