

# **APPLICATION OF PROCUREMENT BEST PRACTICES IN ENHANCING SERVICE DELIVERY IN OIL REFINERY COMPANIES IN NAKURU, KENYA**

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## **Abstract**

*The study sought to find out the application of procurement best practices in enhancing service delivery in oil refinery companies in Nakuru. E-procurement practices, supplier relationship management practices, risk management practices and inventory management practices were independent variables and were tested for significant with service delivery. The study adopted a descriptive survey research design. Out of 41 questionnaires administered a response rate of 90.2% was achieved. The results revealed that the application of four practices enhanced service delivery. Further the inferential analysis indicated that supplier relationship management practices had a very strong positive correlation with service delivery ( $r=0.990$ ;  $p\text{-value}=0.000$ ,  $p\text{-value}<0.01$ ), E-procurement practices had moderate positive correlation with service delivery ( $r=0.340$ ;  $p\text{-value}=0.040$ ,  $p\text{-value}<0.05$ ), risk management practices had positive correlation with service delivery ( $r=0.332$ ;  $p\text{-value}=0.045$ ,  $p\text{-value}<0.05$ ) and inventory management practices had moderate positive correlation with service delivery ( $r=0.341$ ;  $p=0.039$ ,  $p<0.05$ ). Overall significance of the study was carried out using multiple regression analysis that revealed the*

*variables explain up to 98.3% of the changes in the service delivery( R-square = 0.983). Supplier Relationship management practices ( $\beta = 0.976$ ) had the greatest influence in enhancing service delivery compared E-procurement ( $\beta = 0.014$ ), risk management practices ( $\beta = -0.016$ ) and inventory Management practices ( $\beta = -0.026$ ). In conclusion, the findings indicated that there was a very strong relationship between supplier relationship management practices and enhancement of service delivery. The study, therefore, recommends that oil refinery companies' managers should more importantly encourage supplier relationship management practices and should apply effective Inventory control mechanisms, E-procurement practices and risk mitigation culture to enhance service delivery.*

*Keywords: E-procurement Practices, Supplier Relationship Management Practices, Risk Management Practices, Inventory Management Practices*

## **INTRODUCTION**

In recent years, having best procurement practices has become a critical component of the overall success of any business. Organizations now must focus on making their procurement initiatives as efficient and cost effective as possible to ensure they have a competitive edge in their service delivery. In the past procurement had a relatively simple mandate to keep costs low, get all the necessary goods /products and make sure everything is on hand at all times.

Procurement today, however has as much more involved existence, a set of new procurement practices has been established. In today's environment customers are becoming more demanding in terms of better service, including reliability and faster delivery. There is need for organizations to go beyond the internal or institutional analysis of their procurement systems and processes and into adoption of procurement best practices as the organizations seek to improve the delivery of their services. Several developing countries have realized that the use of procurement best practices results to overall improvement of a firms operation and performance.

### **Procurement Best Practices**

Procurement means acquisition by purchase, rental, lease, tenancy, franchise, or by other contractual means of any type of works, assets services or goods including livestock or any combination and include advisory, planning and processing in supplies chain system. (Public Procurement Asset and Disposal Act (PPADA), 2015).Procurement encompasses the whole process of acquiring property and services. It begins when an agency has identified a need and

decided on its procurement requirement (Leeders, 2006). A best practice is a method or a technique that has been generally accepted as superior to any alternative because it produces results that are superior to those achieved by other means or because it has become a standard way of doing things. According to (Kolenko, 2014), the concept of “best practices” regardless of industry is a fluid one. The methods and practices that work during one period may not work during another. Business changes and so must process also change. The procurement function is a perfect example of the changing nature of corporate department and the evolution of responsibility by those working in the field.

Procurement best practices are strategies that may be followed when making company purchasing decisions. The implementation of procurement best practice is shift away from traditional procurement practices and must therefore be approached from a ‘value opportunity’ standpoint rather than a process standpoint (Guth 2010). There must a shift away from the rudimentary procurement such as soliciting a minimum number of bids and selecting the cheapest one which as (Guth 2010) suggests, carries risks which includes missed opportunities for maximum value.

In many cases, implementing procurement best practices appears to allow the total cost of procured goods and services to be reduced by more than 15 percent over time (Owen, 1998). Further, continuous improvement in best procurement practices generates ongoing savings. As a result, 55 percent of respondents to a 1997 survey of executive managers expect annual material costs to decrease an average of 2 to 3 percent. IBM’s Global Services division reports that in 1998 it saved over \$1.5 billion by implementing procurement best practices (Carbone, 2000). Ford Motor Company used best procurement practices to reduce purchased material costs by 3 percent in 1997 (Wincel & Jeffrey, 1998). Honda of America’s material costs dropped by 12 percent between 1994 and 1997, representing a 17 percent overall savings (Nelson, 1998). As of December 1995, Chrysler’s SCORE program had generated more than \$1.7 billion in annual savings over its first six years by implementing 5,300 supplier ideas (Jeffrey, 1996). Chrysler further notes that its experience has been one of increasing rather than decreasing returns from procurement best practices.

In today’s economic environment doing what you have always done even if you are to do it very well is no longer acceptable, under pressure to contain both costs and produce results despite challenging circumstances, supply managers must transform rather than simply improve your operation. That means adopting the philosophies, methods and processes that will make your organization best in class.

According to (Arawati, 2011) best procurement practices include :Green purchasing, partnering, E-procurement, purchasing ethics, total quality management, just in time delivery,

procurement planning and risk management training and professional development, service excellence, corporate social responsibility, learning, management and leadership. The total price impacts borne by government as a result of poor procurement practices are estimated at around \$239 million per annum (Davis, 1993).

Delivery performance improvements from adopting best procurement practices, which include improved supplier responsiveness and reliability, allow firms to reduce their inventory levels (Avery, 2000). For example, the purchasing department at American Airlines (AMR) worked with aircraft fuel suppliers to increase dependability of fuel delivery to planes. AMR reports that this has helped them reduce fuel inventory by more than 20 percent since 1994 and achieve near Five Sigma quality. AMR also worked with an integrated parts supplier to improve service levels approaching a 97 percent fill rate (delivery within eight hours), a reduction in part and material unit cost of about 19 percent, and a decrease of 16 percent in the purchase volume.

### **Service Delivery**

According to the Cambridge English dictionary service delivery is the act of providing service to customers. Service delivery is a deliberate obligatory decision by the elected or appointed officials to serve or deliver goods and services to the recipients. Service delivery framework is a set of principles, standards, policies and constraints used to guide the design, development, deployment, operation and retirement of services delivered by a service provider with a view to offering a consistent service experience to a specific user community in a specific business context.

Service delivery framework is the context in which a service provider's capabilities are arranged into services (Helmsing, 1995). Services cannot be displayed, physically demonstrated or illustrated; therefore they possess few search properties and many experience properties. Because of intangibility, it is difficult to understand how consumers perceive services and evaluate service quality (Bitner, 1990).

Service quality perceptions result from the comparison of consumer perceptions of actual service performance with consumer expectations. Delivering quality service means conforming to customer expectations on a consistent basis. Satisfaction with services is related to confirmation or disconfirmation of expectations (Bitner, 1990). Basic services enhance the quality of life of citizens, and increase their social and economic opportunities by promoting health and safety, facilitating access to work, education and recreation, and stimulating new productive activities.

## **Oil Refinery Companies in Nakuru**

The oil refinery companies in Nakuru are Bidco Africa and Menengai Oil Refinery Company. Bidco Africa is a multinational consumer goods company headquartered in Thika having its branch in Nakuru, Kenya with subsidiaries and distributorships across 16 countries in East Africa, Central Africa, and Southern Africa. Its products include edible oils, fats, margarine, laundry bars and detergents, personal care products, and animal feeds.

It was started in 1991, Bidco Africa owns over 40 brands and is the largest producer, marketer, and retailer of consumer goods in the region. Menengai Oil Refineries Company Ltd was started by Mr. P.D. Shah and his father Mr. D. K Shah. The organization started from humble beginnings in the upholstery business, then referred to as Menengai Drapers Ltd, in 1990 three brothers P.D. Shah, K.D .Shah and A.D Shah jointly registered the Menengai Soap factory Ltd. The manufacturer of soap was a successful venture and in 1994 it was decided that the company would venture into manufacture of edible cooking oil and thus the birth of Menengai oil refineries ltd.

In 2011 Rai group took over the company and embarked on revamping it by introducing the latest state-of-the art machinery in the refinery, capacity building and product rebranding. Today the company is renowned for the manufacture and distribution of leading products key of which are Top fry Vegetable cooking oil, Karibu and Somo vegetable cooking fats, Menengai cream and bar soaps alongside industrial detergents. These Oil refinery companies operate in dynamic and complex environments in their strive to deliver quality products and services to its external and internal customers, Due to these, application of procurement best practices in their operations becomes critical to ensure their customers are satisfied with their services and in the long run to ensure success in their operations.

## **Statement of the Problem**

Procurement has become an integral part of organizational performance and it is drawing increased attention from top to lower management levels. According to (PPOA 2009), procurement activities grew from 5.8 percent in 2001/2002 to 23.6 percent in 2007/2008 (PPOA, 2009). There is a growing recognition that, despite significant increases in resources, service delivery is still falling in oil refinery companies in developing countries (Davis 2015). Practices such as use of manual systems, lack of supplier relationship management practices, poor risk management and lack of adequate inventory management measures, has caused a tremendous decline of service delivery. Recently the field of procurement has attracted many researchers, Adyemi (2010) conducted a study on factors affecting the adoption of effective procurement practices in public organizations, (Krause 2000) conducted a study of

influence of supplier development strategies in service delivery, There is however scanty empirical research examining on the application of procurement best practices in enhancing service delivery in oil refinery companies. From the above studies it is evident that there has not been a study that links the application of procurement best practices in enhancing service delivery. This leaves a knowledge gap that has necessitated the study.

### **General Research Objective**

To establish the application of procurement best practices in enhancing service delivery at Oil Refinery Companies in Nakuru.

### **Specific Research Objectives**

- i. To assess the application of E-procurement practices in enhancing service delivery in oil refinery companies in Nakuru.
- ii. To determine the application of supplier relationship management practices in enhancing service delivery in oil refinery companies in Nakuru.
- iii. To examine the application of risk management practices in enhancing service delivery in oil refinery companies in Nakuru.
- iv. To determine the application of inventory management practices in enhancing service delivery in oil refinery companies in Nakuru.

### **Research Hypothesis**

**Ho<sub>1</sub>:** E-procurement practices do not have a significant influence on service delivery in oil refinery companies in Nakuru.

**Ho<sub>2</sub>:** Supplier relationship management practices do not have a significant influence on service delivery in oil refinery companies in Nakuru.

**Ho<sub>3</sub>:** Risk management practices do not have a significant influence on service delivery in oil refinery companies in Nakuru.

**Ho<sub>4</sub>:** Inventory management practices do not have a significant on service delivery in oil refinery companies in Nakuru.

## **LITERATURE REVIEW**

### **Empirical Literature Review**

The section reviews the literature from past studies that have linked application of procurement best practices in enhancing service delivery. It has linked four dimensions; E-procurement

practices, supplier relationship management practices, risk management practices and inventory management practices.

### ***E- Procurement***

E-Procurement refers to the use of Internet-based (integrated) information and communication technologies (ICTs) to carry out individual or all stages of the procurement process including search, sourcing, negotiation, ordering, receipt, and post-purchase review Croom&Brandom, (2003). While there are various forms of e-Procurement that concentrate on one or many stages of the procurement process such as e-Tendering, e-Marketplace, e-Auction/Reverse Auction, and e-Catalogue/Purchasing, e-Procurement can be viewed more broadly as an end-to-end solution that integrates and streamlines many procurement processes throughout the organization. According to ( Parida, 2005) e-procurement is a technology solution that facilitates corporate buying using the Internet. Essentially an Internet/Intranet based purchasing application or hosted service that streamlines buying, trading partners, maximizes trade efficiency across the entire supply chain, and provides strategic e-commerce capabilities in Internet time. According to Gimenez& Lourenco, ( 2004) e-procurement is the electronic acquisition of goods and services in a firm; it involves the automation of procurement processes so that the sourcing, vendor selection, procurement processes, shipment status tracking and payments can be made in an online environment.

Given the scale and significance of procurement expenditure and the “bottom line” impact of reducing the cost of procurement, it is not surprising that over the past decade there has been an increasing focus on the cost of procurement within both private and public sector organizations (Parida 2005). This focus has resulted in the identification of innovative and alternative procurement mechanisms which will provide real business benefits to organizations. E-procurement is central to this and the potential benefits which may be obtainable from the introduction of e-procurement have generated a significant amount of debate within published research.

According to (Eadie, 2007), an organization which uses E-procurement has the following advantages: First, Price reduction in tendering: Empirical studies carried out by in the United States of America indicated that the two most important measures for the success of procurement processes are cost and time. In this method, there is no paperwork, postage fee and other costs associated with preparation and sending tender documents. It is also faster to send a document electronically as compared to the traditional method of sending tender documents through post office. It results to improved order tracking and tracing, for it is much easier to trace the orders and make necessary corrections in case an error is observed in the

previous order. Secondly, there is reduction in time to source materials: In Reduction in time has been proved as a relevant benefit by (Knudsen, 2003) quoted in (Eadie, 2007), who says “E-procurement is a rapid efficient method of finding and connecting new sources, being a lean channel for communication”. A lot of time is spent on paper invoicing in terms of writing, filing and postal communication but while in e-procurement, staff have sufficient time to engage on strategic issues of procurement-procurement gives an organization competitive advantage over its competitors. A centralized department can oversee all procurement activities and different offices worldwide can access the same documentation when required. This gives a distinct advantage over the much slower process of having to post documentation between offices.

This extends the supply chain beyond geographical boundaries to a much wider group. Suppliers can be monitored on timely delivery, quality delivery of products and services hence performing suppliers can be contacted in future. This raises other logistical considerations which may impact on scheme quality (Eadie, 2007). This implies that with e-procurement, every prospective supplier and buyer is always accessible to his/her convenience. The result is not only greater market access but also increased productivity. Indirect benefits of e-procurement such as decreasing cycle time between order and delivery and enabling greater flexibility for supplier selection according to the best value.

Chaffey,( 2009) concluded that e-procurement is being considered as a strategic issue due to its great saving and cost reduction. A number of factors inform the intention to adopt and full implementation of e-procurement. First there are Buyer-Supplier’s Integration factors. Confidentiality of data must be maintained, as data must not be visible to eavesdropper. It is also important that communicating parties are able to authenticate the identity of the other party, and know when data integrity of the other party has been compromised. The second issue is trust, Moorman, *et al* (2008) defined trust as reliance on a partner and involves vulnerability and uncertainty on the part of the trustee. The other issue informing e-procurement adoption is risk perception. According to (Pressuti, 2003), business players perform differently based on their own level of risk perception on e-procurement or their own trust on their supplier. Lack of previous experience or relationship with internet based supplier may increase the risk perception mind. Also critical to e-procurement is top management support. There is little doubt that senior management leadership is critical to the success of an e-procurement implementation. The top management team (steering committee) must involve the project manager, any consultants working with the committee, and agency staff to develop an implementation strategy.

By the application of e-procurement practices an organization will able to enhance speed and efficiency in service delivery as suppliers will be able to receive orders and ensure the



delivery of those goods at the right time when they are required. Transaction costs will also be minimized hence this will reduce unnecessary cost to the company thus ensuring efficiencies in their delivery. Improved information flow through real-time marketing intelligence and information will ensure quality services are provided hence enhancing better service delivery (Chaffey, 2009).

### ***Supplier Relationship Management Practices***

Supplier relationship management is the process that defines how a company interacts with its suppliers (Leeders, 2006). Just as a company needs to develop relationships with its customers, it also needs to foster relationships with its suppliers. As in the case of customer relationship management, a company will forge close relationships with a small subset of its suppliers, and manage arm-length relationships with them. Supplier Relationship Management (SRM) is first and foremost an approach used for engaging with suppliers on a level that reflects the priorities of the customer organization and how best these needs can be achieved. It is a differentiation process that recognizes that not all suppliers are the same and therefore not all customer-supplier relationships should be dealt with through a single strategy. Johnson, (2004) affirmed that SRM is a discipline of working collaboratively with those suppliers that are vital to the success of your organization to maximize the potential value of that relationship. SRM is about developing two-way, mutually beneficial relationships with your most strategic supply partners that deliver greater levels of innovation and competitive advantage than could be achieved by operating independently.

The study of supplier-customer relationships has shifted from a focus on the organizational traits associated with relationships to a focus in which personal trust between the parties has been acknowledged as an important ingredient. Allister, (1995) concluded that trust occurs in cognitive and affect-based forms. The former has its roots in reliable role performance, cultural-ethnic similarity, and professional credentials, while the latter is a function of individual behavior and interaction frequency. Both forms were found to enhance coordination by lowering administrative costs. Coordination is related to trust through boundary definition, and reflects the set of tasks each party expects the other to perform (Mohr & Spekman, 1995).

Relationship between the organization and its suppliers is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits. (Boydell, 2007) explains that partnering relies on the development of relationships between the parties involved and that partners not only need to connect with one another, but also begin to connect one another to networks outside the partnership. These contacts are invaluable, as they inform and connect partners with other

industry leads, which enable them to function more effectively within the partnership. Strategic partnerships with suppliers enable organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of the products. Suppliers participating early in the product-design process can offer more cost effective design choices, help select the best components and technologies, and help in design assessment strategically aligned organizations can work closely together and eliminate wasteful time and effort. An effective supplier partnership can be a critical component of a leading edge supply chain.

Communication and the sharing of information are fundamental to most aspects of supplier-customer relationships. Indeed, it has been proposed that the exchange of information between the parties serves to "create" a necessary environment for the conduct of business relationships. Therefore, as boundary spanners exchange information, that information provides cues to the other party as to what the communicating boundary spanner considers important to his/her organization and the relationship (Fynes, 2005). According to Tren & Monzcka,( 1993) close relationships are not possible without some reduction in the size of the supply base.

As strategic partners, buyers and suppliers openly share information and communicate frequently. For example, manufacturers and retailers share customer order, production, and planning information with their key suppliers. They also align their efforts by measuring progress toward meeting jointly agreed-upon goals. Strategic partners may collaborate on mutually beneficial projects. For example, Pratt & Whitney now brings suppliers into the design process very early to ensure that designs take into account the cost of manufacturing. According to (Nobble, 1997) SRM managers should be responsible for managing no more than three supplier relationships, in order to devote sufficient time to each. Staff involved in SRM activities will have a good combination of commercial, technical and interpersonal skills. Commercial acumen, market knowledge, analytical abilities and project management expertise are important. But "softer" skills around communication, listening, influencing and managing change are critical to developing strong and trusting working relations. SRM managers understand their suppliers 'business and strategic goals and are able to see issues from the supplier's point of view, while balancing this with their own organization's requirements and priorities.

Innovative buyers and key suppliers sometimes form joint teams to pursue improvements throughout the supply chain. Partners also share personnel across their contractual boundaries. Some suppliers are invited to place personnel at buyer locations (e.g., to work with product design teams, to place orders as needed, or to manage supplier inventory at the buyer's location). For example, Motorola has an engineering exchange program through which supplier personnel literally take up residence at the Motorola plant (Earnest, 1991). Last,

innovative buyers and key suppliers often share the rewards from cost savings and product, service, or supply chain innovations with key staff and each other.

According to (Lee ,2000) suppliers and customers are less likely to use equity sharing agreements as they gain more experience with each other through ongoing relationships. Moreover, greater familiarity between the parties bred trust, which replaced legal relationships. The underlying theme of these studies is that trust develops when tangible benefits appear to both parties from the business relationship. Interestingly, even as firms increase the length of their agreements, research has concluded that many supplier/customer relationships are still characterized by a lack of trust (Coviello, 2012). Thus, opportunistic behavior by one party can lead to a lack of trust by the other party. Supplier relationship management practices will be able increase trust between suppliers and their customers hence the suppliers will have a better understanding of the needs of their customers and hence this will ensure that the organization will be able offer goods and services that meet the needs of their customer. These will ensure their customers are satisfied and thus enhance service delivery. Through supplier relationship management practices organizations will also be able to establish those suppliers that are reliable hence they will be at capacity of providing timely and quality goods thus enhancing provision of quality services to customers of the organization (Boydell, 2007).

### ***Risk Management Practices***

Generally, risk can be defined as ‘the probability of an unwanted outcome happening’. Risk management involves three key activities: risk analysis, risk assessment and risk mitigation (Chartered Institute Purchasing and Supplies (CIPS), 2005). Risk management can also be described as the identification, assessment, and prioritization of risks – followed by actions to minimize the likeliness and/or impact of negative events, or maximize the realization of opportunities.

According to Organization for Economic Co-operation and Development (OECD, 2003) risk refers to the combination of the probability that a potentially harmful event will occur and the potential damage such an occurrence would cause. For optimal implementation, it is important to allocate risks to specific persons and/or departments that are best placed to manage them effectively. Risk management is essential for all steps in the procurement process. To successfully carry out risk management the following actions must be taken: Identify risks beforehand and include them in a roadmap, allocate risks: who is responsible for which risks, mitigate threats beforehand as much as possible and take advantage of the opportunities Monitor risks by using the roadmap and take action in case of threats and opportunities.

Research carried out by (Bettis, 1982) indicated that of the 180 global enterprises studied: '55% of enterprises benchmarked lacked formal metrics and procedures for assessing and managing procurement risks', although presciently, 'more than three-quarters (76%) of companies expected procurement risks to increase over the following three years due to procurement market instability, new regulatory requirements, natural disasters, and terrorist attacks'. One of the main functions of supply management is to ensure smooth and uninterrupted flows of goods and materials. Today, organizations operate in increasingly complex and uncertain environments with high risks of supply disruptions making supply management an increasingly complex task.

The environmental pressures and risks require companies to constantly and consequently analyze and reduce these risks (Elis, 2010). Supply disruptions can be defined as any unforeseen events that disturb the normal flow of goods and materials in a supply chain. These disruptions can have major negative consequences for the management of operations. For example, they can result in production disruptions and hampered productivity and capacity utilization. In the longer term supply disruptions can negatively affect the shareholder price and a company's long-term financial performance.

For a purchasing organization, a supply disruption can also mean inability to meet demand and satisfy customers (Elis, 2010). Supply disruptions can come from a wide variety of sources, including physical damage at production facilities, natural disasters, strikes and labor disputes, capacity issues, inventory problems, incorrect forecasts and delays (Chopra & Sodhi, 2004). Understanding supply risks can enable purchasing organizations to take effective action in response to those risks (Zudish, 2003).

Risk management should form an integral part of good purchasing and supply practice (CIPS, 2005). It is essential to address the 'right' risks and use the 'right' strategies. Thus, organizations should understand the sources and drivers of risk before devising risk mitigation strategies which may require adding capacity, increasing inventories, having redundant suppliers, increasing responsiveness, increasing flexibility, aggregating or pooling demand, increasing capability, or having more customer accounts (Chopra & Sodhi, 2004).

Moreover, supply risk management activities can involve process improvement, buffer strategies, forming strategic alliances and developing suppliers (Zudish, 2003). It is important to allocate responsibilities for management of risks to the individuals and departments best suited to manage them (CIPS, 2005). Choosing the appropriate risk mitigation strategy is essential (Chopra & Sodhi, 2004). Risk management requires certain knowledge of risk management and risk mitigation techniques. Insurance can be one way of supply risk mitigation (Laming, 2004).

Risk management can help companies ensure the smooth and successful running of purchasing and supply operations (CIPS, 2005). Risk management can contribute to the resilience of a supply chain as a whole and to business continuity (Christopher & Peck, 1998). Successful prevention and mitigation of supply chain risks can help ensure good financial performance and shareholder wealth (Hendricks, 2003). Even though many risks can be effectively addressed with risk management strategies, it is impossible to completely eliminate supply risks (Zudish, 2003). Individual risks are often interconnected: actions that mitigate a particular type of risk can in fact increase another type of risk.

Risk mitigation usually requires considerable investments and can sometimes come at the price of eroding profits, Chopra & Sodhi (2004). Through the applications of efficient risk management practices, uncertainties will be able to be eliminated and an organization customers will be able to gain greater confidence of right supply at the right time, necessary cost will also be avoided and organizations will be able deliver optimum services thus enhancing service delivery (Elis, 2010).

### ***Inventory Management Practices***

Inventory is defined as a stock or store of goods. These goods are maintained on hand at or near a business's location so that the firm may meet demand and fulfill its reason for existence. Inventory management is the process of efficiently overseeing the constant flow of units into and out of an existing inventory (Lambert, 1998). There are two main concerns about inventory management. First, inventory management concerns the level of customer service, that is, to have the right goods in sufficient quantities, in the right place and at the right time.

Another concern is the cost of ordering and carrying inventories (Stevenson, 2009). According to (Lysons, 2003) there are several reasons for keeping inventory. Too much stock could result in funds being tied down, increase in holding cost, deterioration of materials, obsolescence and theft.

On the other hand, shortage of materials can lead to interruption of products for sales; poor customer relations and underutilized machines and equipment. Inventories may consist of raw materials, work-in-progress, spare parts/consumables, and finished goods. It is not necessary that a company has all these inventory classes. But, whatever may be, the inventory items, need management as, generally, a substantial share of an Organization's funds is invested in them.

In the past, inventory management was not seen to be necessary. In fact excess inventories were considered as indication of wealth. Management by then considered over stocking beneficial. But today firms have started to embrace effective inventory management.

Managers, now more than ever before, need reliable and effective inventory control in order to reduce costs and remain competitive,(Carter &Price, 1993).According to (Burt, 2006), inventory alone account for as much as 30% of the organization invested capital. It's for this reason that the Government of Kenya through its Supplies manual (2007) instituted procedures and techniques for the purpose of effective inventory management.

Prudent management of inventory reduces depreciation, pilferage and wastages while ensuring availability of the materials as at when required (Ogbad, 2009). Efficient and effective management of inventories also ensures business survival and maximization of profit which is the cardinal aim of every firm. More so, an efficient management of working capital through proper and timely inventory management ensures a balance between profitability and liquidity trade-offs Aminu, (2012). Specific performance indicators have been proved to depend on the level of inventory management practices.

Inventory management is recognized as a vital tool in improving asset productivity and inventory turns, targeting customers and positioning products in diverse markets, enhancing intra and inter-organizational networks, enriching technological capabilities to produce quality products thereby imparting effectiveness in inter-firm relationships. Proper inventory management even results in enhancing competitive ability and improved service delivery of small manufacturing units (Cholotra, 2013).Inventory control helps organization to establish the proper inventory levels through the economic order quantity; and to keep track of this level through inventory control system which many are manual such as two bin method and red line method, or computerized inventory control systems. Proper inventory controls also require an organization to undertake stocking and use appropriate method to value stock so as not to under or over state profits (Kotabo, 2012). Companies incur substantial costs in the procurement and maintenance of inventories, which costs form a large portion of production costs. Inventory costs include: carrying costs such as storage and insurance; ordering costs like transporting and store placement; and stock out frequently costs like redundancy and loss of sales.

A company cannot achieve an outstanding performance in their services delivery without proper and efficient control of materials (Soni, 2012).Organizations using modern inventory management processes are utilizing new and more refined techniques. These techniques help to optimize inventories, which decrease inventory and lower costs, and to maximize customer service. With these improvements in inventory management, organizations are becoming more competitive in the delivery of high level customer service and value (Gerhard, 1998).

Effective inventory management practices are essential in the operation of any business (Levinson, 2005). It is therefore very important for the procurement function in a company to successfully manage their inventory and use all techniques that they see fit for their type of business. By doing this they can lower overhead costs and increase their customer satisfaction by having goods available when the customer demands them thus improving their service delivery to their customers. Through efficient management of inventory incidences of stock out won't exist thus goods will be available when they are needed. Inventory management also reduces lead time and enables organizations to accurately forecast demand appropriately, hence ensuring optimum service delivery (Stevensons, 2009).

### ***Service Delivery***

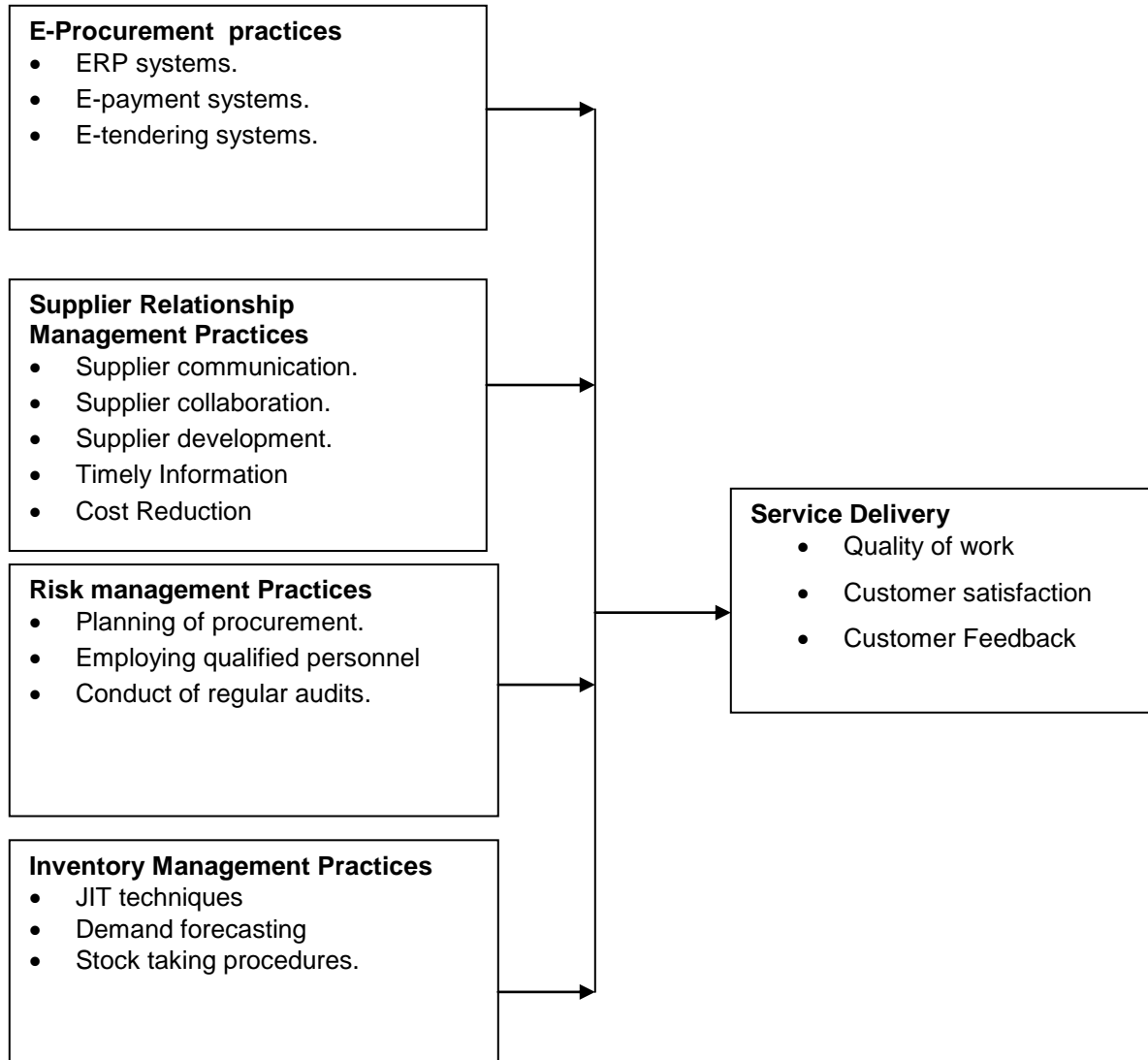
According to the English oxford dictionary to enhance means to intensify, or further improve the quality, value or extent of something. Service delivery is a deliberate obligatory decision by the elected or appointed officials to serve or deliver goods and services to the recipients. Service delivery framework is a set of principles, standards, policies and constraints used to guide the design, development, deployment, operation and retirement of services delivered by a service provider with a view to offering a consistent service experience to a specific user community in a specific business context.

Service delivery framework is the context in which a service provider's capabilities are arranged into services (Helmsing, 1995).As pointed out by (Wernerfelt, 1996), customers are starting and end point of an organization. Organizations need customers to survive therefore customers must be the center of everything and organizations must strive to create and give value to customers. While organizations are expected to deliver quality and optimal services to customers, the expectations of customers are varied. Hence organizations should strive they meet their customers need for optimum service delivery.

### **Conceptual Framework**

A conceptual frame work forms a simplified structure, which is meant to help gain insight into a phenomenon that one needs to explain (Orodho, 2009). A conceptual framework depicts the relationship between a dependent variable and an independent variable. The conceptual framework in figure 1 below hypothesizes the relationship between procurement best practices and service delivery.

Figure 1: Conceptual Framework



## RESEARCH METHODOLOGY

### Research Design

A research design is a statement of the essential elements of a study and constitutes the blue print for collection, measurement and analysis of data (Cooper & Schindler, 2011). According to (Klinger, 1973), research design is a plan, structure and strategy of investigation conceived to obtain answers to research questions and control variables. The study adopted a descriptive survey research design. A descriptive research design is one that entails collecting data as it exists in the natural setting without changing the environment or manipulating variables (Orodho, 2003). The descriptive study employed the survey strategy, which entails collecting



data from a section of population and generalizing findings to the entire population (Cooper & Schindler, 2011).

### Target Population

The study intended to find out the application of procurement best practices in enhancing service delivery in oil refinery companies in Nakuru. The target population constituted of 41 employees working in three departments which were: Procurement department, logistics department and stores department in oil Refinery Companies in Nakuru.

Table 1: Target Population

Department	Menengai	Bidco	Total
Procurement department	4	3	7
Stores department	10	7	17
Logistics department.	9	8	17
<b>Total</b>	<b>23</b>	<b>18</b>	<b>41</b>

### Sampling Frame and sample Size

Due to a small number of the targeted respondents, the researcher used census technique to collect data from the respondents. According to Cooper & Schindler (2003), a sampling frame is a list of elements from which the sample is actually drawn and closely related to the population while a sampling technique is a statistical technique a researcher adopts to develop an appropriate sample that is a representative of a population under study.

### Data Collection Instruments and Procedure

In collecting data, the researcher first acquired a letter of introduction from Jomo Kenyatta University of Agriculture and Technology, Nakuru Campus which was presented to the oil refinery companies in Nakuru to obtain permission for carrying out the study. Upon obtaining the permission, the selected respondents were identified and the researcher created a rapport with them as well as explaining the purpose of the study and the expected data from them. Questionnaires were administered on a drop and pick later basis. The researcher then allowed the respondents to fill in the questionnaires within duration of 2 weeks. Follow ups were then made through their respective supervisors to know the progress in responding to questionnaires and also to ensure higher response rates.

## ANALYSIS AND DISCUSSIONS OF FINDINGS

### Response Rate

The study targeted 41 respondents. 41 questionnaires were therefore distributed for the purpose of data collection. 37 questionnaires were successfully filled and collected for the purpose of analysis. This implied a response rate for 90.2%. This according to the researcher was a high response rate due to the personal efforts to administer the questionnaires.

### Inferential Analysis

The research sought to establish the relationship between the dependent and independent variable. Correlation and regression analysis were done to help establish the nature of the relationships between independent and dependent variable.

### Correlation Analysis

The questionnaire elicited responses that were in form of Likert scale. This enabled the researcher to transform the responses into a composite score of their means. The researcher established the spearman's rho correlation coefficient to establishing the relationship between the dependent and independent variable. The findings from the analysis were presented in Table 2

Table 2: Correlation Analysis

		Service Delivery
Spearman's rho E-Procurement Practices	Correlation Coefficient	.340*
	Sig. (2-tailed)	.040
	N	37
Supplier Relationship Management Practices	Correlation Coefficient	.990**
	Sig. (2-tailed)	.000
	N	37
Risk Management Practices	Correlation Coefficient	.332*
	Sig. (2-tailed)	.045
	N	37
Inventory Management Practices	Correlation Coefficient	.341*
	Sig. (2-tailed)	.039
	N	37

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

*E-procurement Practices and Service Delivery*

From the Table 4.10 correlation analysis results  $r=0.340$ ;  $p=0.040$  ( $<0.05$ ) imply statistically significant weak positive relationship between E-procurement practices and service delivery. The positive relationship implies that with improved E-procurement practices there will be also improvement in service delivery. The first hypothesis was; **H<sub>01</sub>**: E-procurement practices do not have a significant influence on service delivery was rejected and it was concluded that E-procurement practices have a significant influence on service delivery in oil refinery companies in Nakuru .The findings are in consistent with Chaffey (2009) E-procurement practices such as improved information flow through real-time marketing intelligence and information ensures quality services hence improved service delivery.

*Supplier Relationship Management Practices and Service Delivery*

The values  $r=0.990$ ;  $p=0.000$  ( $<0.05$ ) indicate a strong positive and significant relationship between supplier relationship management practices and service delivery. The second hypothesis was **H<sub>02</sub>**: Supplier relationship management practices do not have a significant relationship with service delivery. The second null hypothesis was therefore rejected and it was found out that supplier relationship management practices have a significant influence on service delivery. A study by (Boydell, 2007), supplier relationship management practices enables organizations to build trust thus find reliable suppliers with the capacity of providing timely and quality goods and services to customers of the organization hence ensuring better service delivery.

*Risk Management Practices and Service Delivery*

The vales  $r=0.332$ ;  $p=0.045$  ( $<0.05$ ) indicate a weak positive and significant relationship between risk management practices and service delivery. The third hypothesis was **H<sub>03</sub>**: Risk management practices do not have a significant influence on service delivery. The third null hypothesis was rejected and it was concluded that risk management practices have a significant influence on service delivery. According to (Ellis ,2010) risk management practices eliminate uncertainties and customers tend to gain greater confidence of the right supply at the right time ,hence optimum services are delivered.

*Inventory Management Practices and Service Delivery*

Lastly,  $r=0.341$ ;  $p=0.039$  ( $<0.05$ ) also indicates a weak positive and significant relationship between inventory management practices and service delivery. The fourth hypothesis was **H<sub>04</sub>**: Inventory management practices do not have a significant influence on service delivery. The

fourth null hypothesis was rejected and it was concluded that inventory management practices have a significant influence on service delivery in oil refinery companies in Nakuru. Findings are consistent with Stevenson's (2009) that inventory management reduces lead time and also enables organizations to accurately forecast demand thus ensuring optimum service delivery.

### **Regression Analysis**

Multiple regression analysis was conducted to determine the overall influence of E-procurement practices, Supplier relationship management practices, Risk management practices and Inventory management practices on service delivery. R Square presents performance of service delivery influenced by E-procurement practices, Supplier relationship management practices and inventory management practices.

Table 3: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.992 <sup>a</sup>	.983	.981	.05723

a. Predictors: (Constant), Inventory Management Practices, Risk Management Practices, E-Procurement Practices, Supplier Relationship Practices

From the Table 3 the value R-square=0.983 indicates that E-procurement practices, Inventory management practices, risk management practices and supplier relationship management practices explain up to 98.3% of the changes in service delivery in oil refinery companies in Nakuru. Consequently the intervening variables could explain up to 1.7% of the variations of service delivery not shown in the model.

ANOVA test was used to test the statistical significance of the influence of E-procurement practices, supplier relationship management, risk management practices and Inventory management practices. The level of significance was set at  $p < 0.05$ . The findings from the analysis were presented in Table.4

Table 4: ANOVA<sup>a</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.192	4	1.548	472.579	.000 <sup>b</sup>
	Residual	.105	32	.003		
	Total	6.297	36			

a. Dependent Variable: Service Delivery

b. Predictors: (Constant), Inventory Management Practices, Risk Management Practices, E-Procurement Practices, Supplier Relationship Management Practices.

From the table 4,  $p=0.000$  ( $<0.05$ ) implies that the combined influence of Inventory management practices, Risk management practices-procurement practices and Supplier management practices on service delivery is statistically significant. The model coefficients are as shown in the Table 5.

Table 5: Coefficients<sup>a</sup> on Procurement best practices and service delivery

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	.227	.112		2.030	.051
E-Procurement Practices	.014	.022	.016	.626	.536
Supplier Relationship Management Practices	.976	.025	1.002	38.557	.000
Risk Management Practices	-.016	.019	-.021	-.850	.402
Inventory Management Practices	-.026	.021	-.031	-1.249	.221

a. Dependent Variable: Service Delivery

The model coefficients were used to fit the following mathematical model

$$Y = 0.227 + 0.014X_1 + 0.976X_2 - 0.16X_3 - 0.026X_4$$

Where,

Y =dependent variable-Service delivery

X1 = E-procurement practices

X2 = Supplier relationship management practices

X3 = Risk management practices

X4 = Inventory management practices

The model presents a linear relationship of research variables. The coefficients implies that change in E-procurement practices by one unit leads to change in service delivery by 0.014, change in supplier relationship management practices lead to a change in service delivery by 0.976 and change in risk management practices by one unit leads to a change in -0.016 in service delivery and lastly a change by one unit in inventory management practices leads to change in service delivery by -0.026. Lastly the constant 0.227 indicates the level of service delivery achieved if the four procurement best practices are not practiced.

## **RECOMMENDATIONS**

### **E-procurement Practices on Service Delivery**

The management of the oil refinery companies should optimally apply the E-procurement practices to achieve greater cost saving as well as increase the ease in their service delivery function. They should endeavor to make online communication with their customers so that their needs can be addressed quickly and ensure they are satisfied.

### **Supplier Relationship Management Practices on Service Delivery**

The management of the oil refinery companies should more importantly encourage supplier collaboration to strengthen the relationships between them and their suppliers. Through supplier collaboration there will be trust and commitment thus ensuring right supplies is delivered on a timely basis thus making also the companies to deliver quality products and services to their customers.

### **Risk Management Practices on Service Delivery**

The management of the oil refinery company should develop a risk mitigation culture in all aspects of their procurement and employ an internal audit committee to ensure that procurement policies and procedures are being adhered so as customers get the right services and obtain value for their money.

### **Inventory Management Practices on Service Delivery**

Lastly more efforts should be placed in ensuring proper management of inventory and attention should be placed on the inventory control mechanisms to prevent any occurrence of stock outs and ensure the required stock is available when needed to enhance service delivery.

## **LIMITATIONS AND FURTHER STUDIES**

Limitations of the study included unfilled questionnaires received from the respondents and others failed to be returned on time. Some respondents failed to answer some questions because they felt the information was confidential.

Further studies should be conducted to establish the application of other procurement best practices such green purchasing, warehousing practices, ethical procurement practices on other areas such as procurement performance, operational performance in oil refinery in Kenya. Further studies should also be conducted to determine the factors that hinder the application of these procurement best practices in oil refinery or manufacturing industry in Kenya. Lastly

studies should be conducted on the same on other institutions other than oil refinery companies such as public organizations and other business institutions in Kenya and beyond.

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