

THE IMPACT OF OUTSOURCING ON LEAD TIME AND CUSTOMER SERVICE: A SURVEY OF SUPERMARKETS IN NAIROBI

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ABSTRACT

Outsourcing is a growing aspect of supply chain management and is receiving a lot of attention from supermarkets globally. This is because there is stiff competition in the supermarket industry and customers are exerting a lot of pressure on retailers in terms of; demand variability, reduced lead-time, need for customized products and services. Therefore, supermarkets can no longer compete on cost reduction alone, but also on how efficient they can outsource services. This study establishes the extent supermarkets outsource services and the impact of outsourcing on lead time.

The research was carried through a descriptive survey design which questioned respondents on the extent supermarket outsource services and the impact of outsourcing on lead time. The population of the study mainly constituted of procurement officers, marketing managers, operation manager or their equivalents in supermarket headquarters within Nairobi. The sample of this study consisted of 50 respondents who were drawn from 50 supermarkets. The data collected was analyzed by use of frequency, percentage and correlation analysis.

The analysis indicates that supermarkets outsource advertising and marketing to a very large extent. Consultancy and training, administration of information and systems maintenance, security, facilities maintenance, general maintenance and repair are outsourced to a large extent. Besides, payroll processing, recruitment/staffing and general accounting are outsourced to no extent. The analysis also reveal that outsourcing and lead time are positively correlated.

The study though successful, had some limitations in response rate due to suspicion by some supermarkets heads that the information collected can be used against them, especial by competitors. The supermarkets are usually very busy during the day and as such having the officers dedicating time to fill the questionnaires was problematic.

Key words: Outsourcing, lead time and customer service

INTRODUCTION

1.1 Background of the study

Companies all over the world are experiencing stiff competition from their competitor(s). To gain a competitive edge, they need to be flexible and innovative in their modes of operations. Lyson and Farrington (2006) perceive competitive advantage as a special edge that enables an organization to deal with market dynamics and environmental forces better than its competitors do. Intense competition and market saturation are forcing supermarkets to access new revenue streams worldwide. Supermarkets are expanding their array of products through services and increasing focus on customer loyalty programs (Agnese, 2003; Blisard et al., 2002). All these trends create new challenges for logistic system operations. Major supermarket chains such as Tesco (Tesco-company information, 2000) and Sainsburys in Europe, Fleming, Kroger, Supervalu and Safeway in the USA and Jusco in Japan are striving for increased efficiencies through greater use of technology in all areas of logistics which will be key to growth and improvement in the supermarket industry (Kumar, 2007).

In modern business environments, manufacturers and retailers face an increasing pressure of customers' requirements in product customization, quality improvement, and demand responsiveness. In order to sustain the business under these pressures, most enterprises are striving to develop long-term strategic partnerships with a few competent suppliers and collaborate with them in product development, inventory control and non-core process outsourcing (Chan et al., 2003).

Stevenson (2007) perceives outsourcing as a growing aspect of supply chain management whilst Lyson and Farrington (2006) and Jacobs (2009) perceives it as a management strategy by which non-core functions are transferred to specialist, efficient, external providers. The two attribute the development of outsourcing as a reaction to over diversifications of the 1970s and early 1980s. This over diversifications led many enterprises to review their core activities and concentrate on their core-competencies. Outsourcing is broadly different kinds of corporate actions related to all subcontracting relationships between firms and hiring of workers in nontraditional jobs (Heshmati, 2003). Besides, outsourcing may provide a viable strategy if firms aim to save on labour costs (Abraham and Taylor, 1996), exploit production differentials both within the services and manufacturing (Feenstra and Hanson, 1999).

Outsourcing goes beyond the mere common purchasing and consulting contracts because not only are the activities transferred, but also resources that make the activities occur. The resources include people, facilities, equipment, technology, and other assets. An entire function may be outsourced or some elements of an activity may be outsourced, with the rest of the activities being kept in-house. Identifying a function as a potential outsourcing target, and then breaking that function into its components, allows decision makers to determine which activities are strategic or critical and should remain in-house and which can be outsourced. Reasons why companies decide to outsource vary greatly. Outsourcing may be used to gain competitive advantage and has been adopted widely. Companies are increasingly seeking outside firms to perform activities previously conducted in-house in order to achieve time, progress and cost advantage. The act of outsourcing makes sense for firms that lack the necessary economies of scale, skills or technology to perform certain functions quickly and efficiently (Jacobs, 2009).

Though outsourcing has been reported as a success story, the way in which it has been implemented seems to be of key importance. Organizations are focusing on outsourcing as a management strategy to delegate major non-core functions to specialized service providers. Outsourcing represents a significant shift in the way organizations manage and delegate their business support activities (Lutta, 2003).

Peters and Waterman (1982) agree with Jacobs (2009) that excellent companies remain close to the knitting by focusing on their core businesses while outsourcing what is regarded non-core. Whilst the concept of outsourcing is new, it has been and is still important precursor to some of the new structures that have been developed. The root of competitive advantage lies in the core competencies, which allow businesses to adapt to the marketplace opportunities. Stevenson (2007), however, notes that there are risks associated with outsourcing. For instance, for manufactured goods the risks include high shipping costs and long lead times caused not only by long transportation distances but also by time needed to pass through security checkpoints at borders. These risks impacts negatively on the quality of services rendered to customers.

Meredith and Shafer (2003) define lead time as simply the time between order placement and receipt of shipment, whilst Waters (2002) gives more details explaining that lead time involves the time taken to prepare an order, send it to the supplier, allow the suppliers to make or assemble materials and prepare them for shipment, ship the goods back to the customer, allow the customer to receive and check the materials and put them in stock. Depending on circumstances, this can vary between a few minutes and months or even years. Meredith and Shafer (2003) further observe that lead times are often fixed by suppliers, and can be quite long. Long lead times reduce flexibility and encourage high stocks to cover uncertainty before another order can arrive. Just-In-Time technique looks for ways of avoiding this by moving to small, frequent deliveries with short lead times. Flexibility reduces lead time and ensures that specific customer requirements are met (Waters, 2002).

Cook (2002) is of the idea that customer service might involve after-sale activities such as delivery, setup, warranty work and technical support. Besides, it might involve extra attention while work is in progress such as courtesy, keeping the customer informed and attention to details. Service quality can be a key differentiator and helps to retain customers. Moreover, businesses rated highly by their customers for service quality tend to be more profitable and grow faster than businesses that are not rated highly. Quick response to customers' needs can be a competitive advantage to many firms. It involves quickly bringing a new product or service to the market, quick delivery of existing products or service to a customer after they have ordered and quickly handling customer complaints (Stevenson, 2007). Besides, Cook (2002) emphasizes that the ability to provide an excellent service is a pre-requisite to both attracting and retaining customers.

Hasty (1983) observes that there is no universally accepted definition of the term 'supermarket', but it is generally used to describe a self-service departmentalized food store with a minimum sale value of one million United States dollars (US \$ 1,000,000) per year. Hasty (1983) and Barker et al (1956) argue that supermarkets are basically grocery stores but usually have departments of non-food items, and at least the grocery department is operated on self service basis. Besides, Kotler (2003) define a supermarket as a relatively large, low-cost, low-margin, high-volume, self-service operation designed to serve total needs for food, laundry and

household maintenance products. Supermarkets earn an operating profit of only one percent of sales and ten percent on net worth.

The Progressive Grocer gives a more recent definition of a supermarket as ‘a store with at least two thousand (2,000) feet sales area with three or more check-outs and operated mainly on a self-service basis whose range of merchandize comprises all food groups, including fresh meat, fresh fruits and vegetables (FFV) plus household requirements such as soaps and cleaning materials. Both the Progressive Grocer and Supermarket Institute are of the idea that the minimum sales necessary for a supermarket varies from an arbitrary one million United States dollars to three hundred and seventy five thousand United States dollars (supermarketnews.com).

Supermarket industry in Kenya dates back to the mid seventies when Uchumi supermarkets opened shop in Nairobi. However the industry witnessed most changes in the nineties. The growth of the supermarket sector in Kenya has been driven by three factors: first, there has been rapid urbanization. Second, supermarket growth in Kenya really took off in 1995 after the 1993 policy changes were starting to have an effect. Policy changes included liberalization and stabilization which had several important effects for supermarkets among them included import licensing removal and market liberalization. Again, there was a mild and short-lived recovery of the economy in 1995/6 which gave consumers the buying power to try all these new products that supermarkets were marketing to them.

Third, while Kenya’s supermarket revolution is unlike that of most developing countries outside Africa that had massive inflows of retail Foreign Direct Investment (FDI) after investment liberation in the mid and late 1990s, Kenya’s supermarket sector growth has been almost completely indigenous and endogenous. Before 1993, the main chains stuck to their headquarter cities. However, Uchumi broke this pattern in 1993 by building its first store outside Nairobi, in Nakuru, starting a national level competition that has build-in crescendo (Neven and Reardon, 2005)

1.2 The statement of the problem

A number of researches have been done on outsourcing. A study conducted by PriceWaterhouseCoopers (1999) established that outsourcing has moved markedly from attending to a single function more efficiently, to reconfiguring a whole process in order to attain greater shareholder value across the enterprise. In effect, emphasis is shifting from outsourcing parts, facilities and components, towards outsourcing the intellectual based system. PriceWaterCoopers (2000) conducted a survey in the United States among America’s fastest growing companies, the conclusion arrived at was that businesses that outsource were growing faster, were larger and made more profits than those that did not. The survey further revealed that, of the companies that outsourced, 70 percent claimed to save money and 25 percent had improved focus on core business.

In Kenya researches on outsourcing include; Kinyua (2000) who concluded that companies need to conduct careful analysis before engaging in outsourcing to minimize risks. Besides, Kirui (2001) concludes in his study that outsourcing of non-core logistics activities is triggered by the need to eliminate duplication of roles, efforts, and the dysfunction existing within the organization. In addition, Chanzu (2002) concluded that outsourcing is most prevalent in departments like human resource, finance, and information technology.

Studies on supermarkets include Ngatia (2000) who concluded that service quality differs especially in areas that concern dealing with customers. Kyalo (2001) also concluded that supermarkets see store brands as a strategic tool of ensuring customer loyalty to the store and that increased competition is the major challenge in introducing and managing these brands. Neven and Reardon (2005) did a research on supermarkets in urban Kenya focusing on the impact of the rise of domestic supermarkets on urban consumers of fresh fruits and vegetables (FFV) and they concluded that supermarkets have centralized their FFV operations over a wide regional store network. Mageto (2009) concluded that supermarkets are trying so much to adopt a lean strategy as they keep only sufficient stock in order to reduce stock holding cost.

As evident from the researchers, no scholar has looked at the impact of outsourcing on lead time and customer service. Consequently, there is need to assess the impact of outsourcing on lead time and customer service. Hence this study seeks to answer the questions “what is the impact of outsourcing on lead-time and customer service? And to what extent services are outsourced by supermarkets?”

1.3 Objectives of the study

The research addressed the following objectives with regard to supermarkets within Nairobi:

- a. To establish the extent to which various services are outsourced by supermarkets in Nairobi.
- b. To assess the impact of outsourcing on lead-time and customer service.

1.4 Significance of the study

The information from the study will be crucial on lead time management and service to customers.

Supermarket staff will benefit from this study as the findings would be used to cut costs and optimize on resource use in order to serve their clients better (the staff includes procurement officers, marketing manager, operations managers or their equivalents in the supermarket).

Academically, the proposed study is expected to contribute to the existing literature in the field of outsourcing in general and its impact on lead-time and customer services in particular. Besides, the study will be a basis for further research.

CHAPTER TWO: LITERATURE REVIEW

2.1 The outsourcing process

Various models have been put forward to explain the concept of outsourcing. Deloitte and Touche (2002) in their model makes it possible for mid-size companies to enjoy strategic outsourcing solutions that large enterprises enjoy. Besides, Bendor-Samuel (1999) in his model emphasizes the importance of leveraging a provider's economies of scale in outsourcing. The two models appear to emphasize common elements crucial to the outsourcing process. Further examination of these models suggests that there are five stages that would ensure fair outsourcing deal.

Firstly is the investigation stage where existing process and systems are received and compared to the best breed. The opportunities for improvement are identified and assist to know whether outsourcing has potential advantages or not. This provides a baseline of current costs and service levels. Secondly is tendering stage where knowledge gained from benchmarking is incorporated to set optimum performance targets for the organization. This helps identify the serious contenders for the business and spells out world-class performance expected and how it will be measured.

Thirdly is negotiation stage. Before negotiation, it is crucial to set right expectations for cost, performance and service levels. The negotiation position is reinforced by external validation of the organization's requirements. Benchmarking is done to facilitate fast tracking or sole source considerations. This level the playing field, serving as a surrogate for the competitive process to ensure a firm receives a fair deal.

Fourthly is implementation or contract refinement stage. Service level agreements are put in place detailing process maps, responsibilities and implementation of key performance indicators. Structures and reporting lines are defined and implemented. Besides, in an outsourcing agreement, regulatory controls such as legal documents policies, form systems, standards and procedures may establish the relationship between the two parties and specify boundaries (Das and Teng, 2001) yet they represent only incomplete contracting (Grossman and Helpman, 2005) and hence can not be exhaustive. Interpersonal and informal infrastructures are required to solve ambiguities and make the outcome more predictable (Kanter, 1994; Parker and Rusell, 2004). Social or informal control is based on norms, shared values, internalization and beliefs (Eisenhardt, 1985).

Finally is the relationship management stage. Benchmarking is most commonly employed in relationship management. Several organizations have to renegotiate contracts within two years of being signed. Usually dissatisfaction over pricing and service levels are the main drivers for renegotiations. Benchmarking plays a key role in renegotiations, since clients need access to industry performance parameters in order to make a case with outsourcing vendor (Bendor-Samuel, 1999).

However, McCutcheon (1995) agree with Lutta (2003) and warns that if not well implemented, outsourcing could lead to an abdication situation instead of desired delegation of non-core activities to supplier-partner. McCutcheon (1995) further argues that the greatest danger in outsourcing is the attitude of getting rid of what a company does not like by subcontracting them out as opposed to the company outsourcing its non-core activities so as to enable it focus on its

core activities. The result of the abdication process is a lack of process ownership, lack of accountability, and blame culture and eventually lose-lose situation for both parties.

The table below shows an abdication situation instead of desired delegation of non-core activities to supplier partner.

Table 2.1: Delegation, not abdication

DELEGATION	ABDICATION
Focus on core-competencies: Outsourcing the rest to the experts	Get rid of what you do 'not like'
Experts manages the outsourced process fully	Process ownership problems
Joint accountability	No accountability
Partnership culture	Blame culture
WIN-WIN SITUATION	LOSE-LOSE SITUATION

Source: McCutcheon (1995). "Problem Sources in Establishing Strategic Supplier Alliance", International Journal of Purchasing and Material Management.

2.2 What is outsourced and reasons for outsourcing

The Outsourcing Institute (1998) conducted a study on activities being outsourced or being considered for outsourcing. The results are summarized below:

Table 2.2: Summary of services outsourced and those under consideration

ACTIVITY	CURRENTLY OUTSOURCED	TO BE CONSIDERED FOR OUTSOURCING
Operations(Administration)	<ul style="list-style-type: none"> • Printing and reprographic • Mailroom • Consulting and training • Purchasing 	<ul style="list-style-type: none"> • Administration of information and systems maintenance • Supply/inventory • Records management
Finance	<ul style="list-style-type: none"> • Payroll processing • Transaction processing • General accounting 	<ul style="list-style-type: none"> • Taxes • Payroll processing

Human Resource	<ul style="list-style-type: none"> • Relocation • Workers compensation • Recruiting/staffing 	<ul style="list-style-type: none"> • Consulting and training • Human resources information systems
Real Estate and Physical Plants	<ul style="list-style-type: none"> • Food and cafeteria services • Facilities maintenance • Security 	<ul style="list-style-type: none"> • Facilities management • Facilities maintenance
Sales and Marketing	<ul style="list-style-type: none"> • Direct mail • Advertising • Telemarketing 	<ul style="list-style-type: none"> • Field sales • Reservations and sales promotions
Logistics (Distribution)	<ul style="list-style-type: none"> • Freight audit • Freight brokering • Leasing 	<ul style="list-style-type: none"> • Warehousing • Distribution and logistics
Transport	<ul style="list-style-type: none"> • Fleet management • Fleet operations • Fleet maintenance 	<ul style="list-style-type: none"> • Fleet management • Fleet operations • Fleet maintenance
Information Technology	<ul style="list-style-type: none"> • Maintenance/repair • Training • Applications development • Consulting and re-engineering 	<ul style="list-style-type: none"> • Client/service networks • Networks • Desktop system • End-user support • Full IT outsourcing

Source: The Outsourcing Institute Membership, 1998

Lyson and Farrington (2006) observes that the services most easily outsourced are those that are resource-intensive, relatively discrete, require specialist competencies, characterized by fluctuating work patterns in loading and throughput, subject to quickly changing markets (for which it is costly to recruit and retain staff), and subject to rapidly changing technology requiring expensive investment. Janitorial and security services are commonly outsourced in most firms in Kenya.

Jacobs (2009) indicates that reasons for outsourcing vary greatly and include achieving time, progress and cost advantage. Besides, Pearce and Robinson (1997) identified key strategic reasons for outsourcing which includes improvement of business focus following the realization that several issues are siphoning off huge amounts of management's resources and attention, access of world-class capabilities, achievement of accelerated re-engineering benefits,

adaptation to changing opportunities, and finally to re-direct resources from non-core activities towards activities that have the greatest return in serving the customers. Outsourcing as a supply chain management strategy need to be adopted by firms to gain competitive advantage.

2.3 Common outsourcing mistakes

Bozarth (2008) warns that outsourcing has its risks. Suppliers might misstate their capabilities, their process technology might be obsolete or performance might not meet the buyers' expectations. In other cases the supplier might not have the capability to produce the product to a single supplier and exposure to unforeseen problems due to unexpected natural disasters might worsen the situation. Companies who outsource also risk losing key skills and technologies that are part of their core competencies. To counteract such threats, many companies oversee key design, operations and supply chain activities and keep current on what customers want and how their products or services meet those demands. He adds that control and coordination are critical issues in outsourcing. Buying firms may need to create costly safeguards to regulate the quality, availability, confidentiality, or performance of outsourced goods or services. Coordinating the flow of materials across separate organizations can be a major challenge especially when time zone differences, language barriers and even differences in information systems come into play.

According to Bendor-Samuel (1999), suppliers make mistakes during outsourcing which include ignoring the customer's unique needs, ignoring the importance of leverage and the tendency of avoiding accountability. He further observes that buyers too make various mistakes which include relying too much on executive, letting a supplier lead outsourcing process, problem resolution, interfering with outsourcing process, signing a contract with too long a term, improper governance and lack of accountability among buyers. Outsourcing mistakes that arise from either supplier or buyer can be minimized if supplier-buyer relations are mutually beneficial.

2.4 Requirement for successful outsourcing

According to Randall (1993) successful outsourcing require identification of a strong need for outsourcing. Organizations undergoing rapid change due to changing internal and external environments are likely to benefit if they embrace outsourcing as an operational strategy to reduce operation costs. He adds that companies facing significant capital and headcount constraints are also likely to benefit by outsourcing expensive assets and personnel services. Before committing to outsourcing, companies need strong evidence that tangible benefits will be achieved. To quantify the benefits, a comprehensive feasibility study needs to be carried out to benchmark existing practices and identify the opportunities for improvement.

Randall (1993) is of the opinion that credibility of suppliers is critical for the success of outsourcing process. The credibility is determined by experience in required services, proven track record on implementation and operating similar contracts, financial strength and a multiyear commitment to the contract. In addition, management commitment must be sufficient to overcome the roadblocks that will undoubtedly emerge. He finally recommend that for the outsourcing project to work there is need to have a senior manager who is committed to act as sponsor of the project and guide it from idea to reality.

Elmuti (2003) adds that a good partner is important ingredient for success. Essentially in outsourcing agreements, the relationship between the companies and their partners are based on

trust and on contracts. So it is essential that the right partners are selected based on criteria like credibility, expertise, and reliability. Barthelemy (2003) observes that right partners will eventually lead to closer ties and relationships. Elmuti (2003) further emphasizes the importance to get the right people involved in managing outsourcing efforts and add that adequate training, infrastructure and facilities are essential.

2.5 Customer Service Management

Customer Service Management (CSM) refers to how well the enterprise manages its customer services in terms of effectiveness, productivity and quality (Khong and Richard, 2003). Besides, the two are of the opinion that appropriate Customer Service Management can lead to customer satisfaction, customer retention hence expedite and enhance re-buy. Customers are the driving force of companies striving for success. Survival of those companies evidently depends on their customers (Lewis, 2000; Kotler, 2000). In addition, Waters (2002) observes that without customers, existence of a business organization is imaginary.

According to Cook (2002) organizations have placed increasing emphasis on quality customer service as a means of gaining competitive advantage. As competition has become more global and more intense, many organizations have realized that they cannot compete on price alone. Consequently, companies have developed a strategy of providing superior customer care to differentiate their products and services. Customers are often more interested in how well they are treated than the technical details of the product(s). He emphasizes that customer focused organizations strives towards customer satisfaction.

Khong and Richardson (2003) are of the opinion that as competition intensifies, customers find themselves relishing the options and alternatives various companies can offer them. If they are not satisfied with the current products or services, they can easily switch to others. Besides, Khong and Nair (2004) advice that market research into consumer behavior and expectations, customer databases and records, complaint and suggestion systems, management of service quality to meet customer expectations, product or service improvements, efficient customer handling, and lost customer analysis will enhance Customer Service Management.

2.6 Lead-time and lead-time compression

Meredith and Shafer (2003) define lead-time as simply the time between order placement and receipt of the shipment. Lead-times are often fixed by suppliers, and can be quite long, while Waters (2002) gives more details explaining that lead-time involves preparing an order, sending it to the supplier, allow the suppliers to make or assemble materials and prepare them for shipment, ship the goods back to the customer, allows the customer to receive and check the materials and put them in stock. He further observes that long lead times reduces flexibility and encourage high stocks to cover uncertainty before another order can arrive. Just-In-Time (JIT) technique looks for ways of avoiding this by moving to small, frequent deliveries with short lead times. Flexibility reduces lead time and ensures specific customer requirements are met.

Bozarth (2008) perceive flexibility as how quickly operations and supply chains can respond to the unique needs of different customers. Slack (1987) and Bozarth (2008) identify four types of flexibility: product, mix, volume and delivery. Product flexibility describes the ability to introduce new products or changes to exiting products. Mix flexibility is the ability to produce a wide range of products and services. Volume flexibility refers to the ability to produce whatever

volume the customer needs and delivery flexibility is the ability to alter agreed delivery agreements.

Bozarth (2008) define delivery reliability as the ability to deliver products or services when promised and note that a firm can have long lead times yet still maintain a high degree of delivery reliability. The percentage of orders that are delivered by the promised time and average tardiness of late orders are the typical measures of delivery reliability. He further notes that assortment and spot stock warehousing are two approaches used to shorten customer lead times. Assortment warehouses tend to carry a wider array of goods than spot stock warehouses and carry them for a longer period. Spot stock warehouses focus more on the positioning of seasonal goods such as lawn care products, fashion goods, and recreational equipment. The two approaches are attractive options when distances between the originating source and the customers are long and when customers emphasize high availability or quick delivery.

Time-based competition (Bower and Hout, 1988; McCutcheon et al., 1994) increases the need to be responsive, because the firm or supply is given less time to respond to new orders or changes in existing ones. Mather (1988) provides an explanation why lead-time compression requires additional responsiveness. Using the P:D ratio, a concept dating back to the work of Shingo (1989), Shingo explains that the forecasting horizon becomes longer if the customer lead-time 'D' decreases in relation to the production lead-time 'P'. The longer the time horizon that needs to be forecasted, the less reliable the forecast becomes which in turn increases demand uncertainty (Mather, 1988; Randall and Ulrich, 2001). Generally, flexibility is a critical concept as far as meeting the various changing needs of customers are concerned.

Detailed models have been developed to cope with requirements of business process re-engineering. Aggregate models of time allow the relationships among the lead time of different phases to be better understood. However, they are inadequate to explain the making of the total lead time in depth. The line model (with six components) can effectively represent the lead time of any stockless processes, while the buffer model (with seven components) is suitable for the processes which hold decoupling inventory buffers. As a consequence, the choice of a line model versus a buffer model strictly depends on the degree of interchangeability of the objectives passing through the process, regardless of the degree of process steadiness (Bartezzaghi et al, 1994).The components of lead time include:

Run Time (R) is the sum of the net lapses during which the single object is actually processed. It depends on the capacity of the resources and their specialization degree. Run time is computed as to the single object rather than the batch to which the object is possibly assigned; in this way, run time concentrates on resource efficiency as a source of time lags.

Set-up Time (SU) relates to the on-line set-up activities that are the activities which cannot be anticipated simultaneously to the execution. Set-up time is therefore defined as the periods during which the object waits before being processed at any resources. It can be computed referring to either the single object or the batch to which the object is possibly assigned; in the latter case the set-up time concerns the whole batch.

Queue Time (Q) is simply computed as the sum of the run times and the set-up times of the preceding objects that a single object might encounter when sent on to a resource ahead. Queue

models can provide a well consolidated approach to the evaluation of this component. Note that the set-up time of the single object is not computed in its queue time. It is important to separate the set-up time and the queue time because of the different time-drivers that affect them. For instance, while set-up time allows the effect of variety on lead time to be easily modeled, queue time prevalingly depends on the demand/capacity ratio.

Wait-to-Move Time (WTM) accounts for the time an object waits for the completion of either the transfer batch with which it is forwarded to the next resource or the load batch which is necessary to start the processing. This component refers to both the elapsed time before moving to the next activity and the one from the last activity; the wait-to-move time facilitates the appraisal of the lot-sizing impact on the total lead time. Wait-to-move time should not be confused with the time needed for physical handling, which is better represented by a run time and can be properly described by introducing an intermediate handling activity.

Synchro Time (SY) relates to the waits for synchronization between parallel phases of the process; it depends on three causes: waits for external inputs, waits for scheduled start time and waits for control and co-coordinating mismatches. No queuing or batch effect – which has already been computed in the queue time and in the wait-to-move time respectively – should be included. Synchro time is particularly relevant when the process is very complicated with a lot of parallel branches so that the management of the appointments becomes crucial. Assembly manufacturing, new product development and most administrative processes show these characteristics.

Problem-solving Time (PS) accounts for the waits for non-routine decisions, while the repetitive ones can be easily taken into consideration through the run time component. This component is distinguished from run time in order to describe better sudden and unstructured problem-solving activities.

Given the above definitions, lead time (LT) of an activity or a process is the sum of all the components. The table below summarizes the computation of lead time (LT), order lead time (OLT), and primary lead time (PLT) through time components according to the degree of object interchangeability.

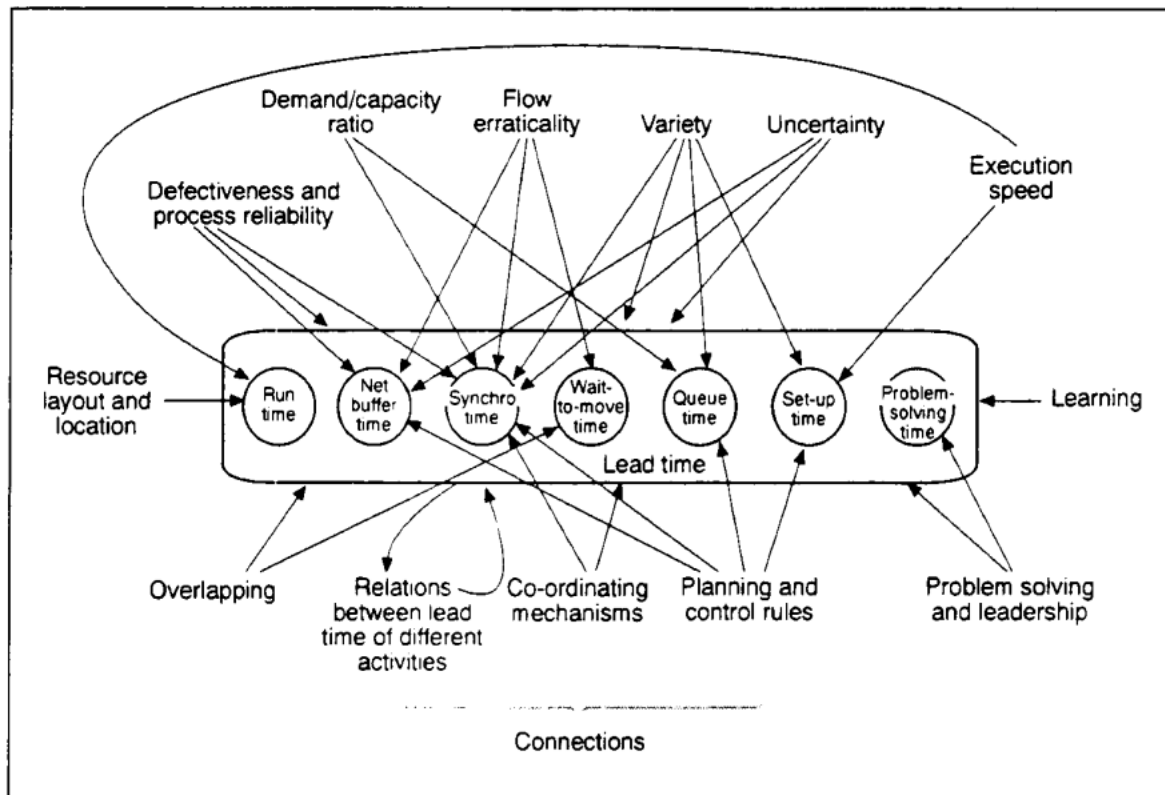
Table 2.3 Lead time according to the degree of object interchangeability

High degree of object interchangeability	Low degree of object interchangeability
$LT = Q + SU + PS + R + WTM + SY + NB$ $PLT < OLT < LT$ $DT \leq OLT$	$LT = Q + SU + PS + R + WTM + SY$ $PLT < OLT = LT$ $DT \leq OLT$
<p> Q = queue time SU = set-up time PS = problem-solving time R = run time WTM = wait-to-move time ST = synchro time NB = net buffer time </p> <p> LT = lead time PLT = primary lead time = $SU + PS + R + WTM + SY$ OLT = order lead time = $Q + SU + PS + R + WTM + SY$ DT = delivery time </p>	

Source: Bartezzaghi et al (1994) “*International Journal of Operations & Production Management*”

Time-drivers regulate the making of total lead time through its components. They concern both the structural characteristics of process and organizational and managerial choices (Bartezzaghi et al., 1994). JIT technique looks for ways of avoiding long lead time by moving to small, frequent deliveries. Flexibility reduces lead time and ensures specific customer requirements are met (Waters, 2002). The table below summarizes the time-drivers and their impacts on lead time components

Table 2.4 Time-drivers and their relations with lead time components



Source: Bartezzaghi et al (1994) “*International Journal of Operations & Production Management*”

2.7 Supermarket industry

Barker et al (1956) argues that supermarkets are basically grocery stores but usually have departments of non-food items, and at least the grocery department is operated on a self service basis. Besides, Kotler (2003) define a supermarket as a relatively large, low-cost, low-margin, high-volume, self-service operation designed to serve total needs for food, laundry and household maintenance products. Supermarkets earn an operating profit of only one percent of sales and ten percent on net worth. The Supermarket Institute define a supermarket as a store with at least two thousand feet sales area, with three or more check-outs and operated mainly on a self-service basis, whose range of merchandize comprises all food groups, including fresh meat, fruits and vegetables plus basic household requirements such as soaps and cleaning materials. Both the Supermarket Institute and the Progressive Grocer specify that the minimum sales necessary for a supermarket varies from an arbitrary one million United States dollars to three hundred and seventy five thousand United States dollars (supermarketnews.com).

Agnese (2003) observes that there are a number of factors, external and internal, that impact the supermarket industry. External factors include decreased population growth in established markets, trends in Gross Domestic Product (GDP), inflation, and shifts in demographics. Internal factors impacting the industry include market saturation, limited market growth and competition. In recent years, the customer base in much of the world has been declining or stabilizing and market demographics have shifted considerably requiring a new way of doing business. The pace

of economic growth, however, can still impact supermarkets' sales and margins as consumers become more diligent in seeking the best price and service available.

World Development Indicators Database (2006) further notes that not only is the population growing more slowly, but it is also changing. Many world citizens today are wealthier, older, more educated and more ethnically diverse. Changing demographics affect tastes and expectations, which in turn affect per capita food spending. The grocery industry is fairly recession-proof as everyone needs to eat. The pace of economic growth, however, can still impact supermarkets' sales and margins as consumers become more diligent in seeking the best price and service available.

Duff (2004) is of the opinion that the supermarket industry is well saturated as a result of urbanization and many existing supermarkets in residential neighborhoods. The industries within the USA, Canada, Europe and Japan are highly mature, while Stadler (2002) note that growth opportunities which traditionally came from opening new stores are now found mainly in same store growth, complimentary markets and acquisitions. Saturation has given rise to intense competition and required many grocers to address new types of competitive threats (restaurants, home shopping delivery, etc.) and rethink their traditional business model.

Jones (2001) observes that market saturation, extreme competition and shifts in demographics teamed with the recent economic slump restrict players in the supermarket industry to limit external market growth. In an attempt to deal with diverse markets, supermarket retailers are forced to customize various operating strategies – expanding the array of services and products, increasing loyalty of profitable customers, generating profits through private labeling, and reaching customers through new delivery methods like internet shopping and home delivery. He further reveals that increasing services has resulted in the proliferation of chain stores and hypermarkets that provide consumers with a one-stop shopping experience. In an effort to become increasingly more valuable to time-poor consumers, supermarkets now offer multiple services like pharmacies, photo processing, bill payment and banking options.

2.7.1 Supermarket Industry in Kenya

According to UN Population division (2003) supermarket industry in Kenya dates back to the mid seventies when Uchumi supermarkets opened shop in Nairobi. However the industry witnessed most changes in the nineties. The Nation Business Directory (2008) has a list of one hundred and two (102) supermarkets in Nairobi. The growth of the supermarket sector in Kenya has been driven by three factors: first, there has been rapid urbanization: the urban population made up 13% of the total in 1975, and 36% in 2000, and is expected to surpass the rural population by 2013. Besides, World Gazetteer (2004) reveals that the populations of intermediate cities like Nakuru and Eldoret doubled between 1989 and 2002. Second, supermarket growth in Kenya really took off in 1995 after the 1993 policy changes were starting to have an effect. The 1993 economic reforms, including liberalization and stabilization policies, had several important effects for supermarkets which among them included import licensing removal and market liberalization. These led to a dramatic increase in product variety and shifted the retail market from a seller's to a buyers' market in which retailers had to fight for the consumers' shilling vote. The direct consequence of the increased product variety in the marketplace is that it favoured the bigger stores (supermarkets) able to stock a wider assortment of products. Price liberalization also played into the hands of the supermarkets because it facilitated the low

margin-high turnover strategy that has been the core of most of the supermarket growth around the world. And finally there was a mild and short-lived recovery of the economy in 1995/6 (with annual real GDP growth in the 4% range) which gave consumers the buying power to try all these new products that supermarkets were marketing to them.

It is noteworthy, however, that Kenya's economy deteriorated afterwards, ending the 1990s with no growth. With a downward trend in real GDP per capita over the last half decade, supermarkets' fast growth persisted even in the slack economic times. This is probably due to their being able to offer low-priced processed foods and staples, appealing to lower middle-income consumer groups.

Third, while Kenya's supermarket revolution is unlike that of most developing countries outside Africa that had massive inflows of retail Foreign Direct Investment (FDI) after investment liberation in the mid/late 1990s, Kenya's supermarket sector growth has been almost completely indigenous and endogenous. Before 1993, the main chains stuck to their headquarter cities. However, Uchumi broke this pattern in 1993 by building its first store outside Nairobi, in Nakuru, starting a national level competition that has built-in crescendo (Weatherspoon and Reardon, 2003).

World Gazetteer (2004) observes that the rivalry between leading chains Uchumi and Nakumatt became an important growth driver; a new strategy by one chain forces imitation and/or a counter strategy by its competitor. For example, Uchumi's introduction of large-format stores in 1995 led to the introduction of a fully-fledged fresh fruit and vegetables department in that year (coinciding with its first hypermarket in Nairobi) was followed by Nakumatt in 2001. Over time, this competition has moved from such conspicuous differentiation strategies to the more subtle price-based competition implying economies of both scale and scope.

2.7.2 First tier supermarkets

According to Neven and Reardon (2004), the first tier consists of two clear market leaders and also the leading supply chain network retailers: Uchumi and Nakumatt supermarkets. They together control nearly 50% of the supermarket sector (in store numbers) and 60% of the sales. There is only one publicly traded Kenyan supermarket, Uchumi.

Uchumi (2003) reveals that Uchumi Supermarket Ltd was established as a wholly government-owned company from three existing stores in Nairobi in 1975. In 1992, as part of the government's ongoing Structural Adjustment Programmes (SAPs), Uchumi became a public company traded on the Nairobi Stock Exchange. Uchumi (2003) further reveal that a new phase in the company's history began in 2001 when Uchumi embarked on an ambitious five-year expansion plan, key features of which include an increase in the number of stores from 17 to 50, an expansion into the regional market (Uganda, Tanzania), the construction of new distribution centre in Nairobi and the installation of a satellite-based Information Technology (IT) system linking all its stores to this new centre. Good progress was made at first: 10 new stores (including two hypermarkets in Nairobi and one in Kampala, Uganda) had opened by December 2002 (doubling its total floor space from 215,000 to 450,000 sq. ft over this two-year period), the new distribution centre was finished by 2003 and the new IT system started in September 2003. However, a combination of high-interest short-term financing tools and investments outpacing

sales growth led to the first annual loss in the company's history (the fiscal year ending 30 June 2003).

The report (Uchumi, 2003) further reveals that the subsequent backlash from worried investors led to the decision to put the 5-year expansion plan on hold for a year. Uchumi took US \$ 135m in sales in 2003, about 1% of Kenyan GDP, more or less the same proportion as Wal-Mart/US sales are of US GDP. However, in 2006 Uchumi's board of directors declared the company bankrupt and it was suspended from the Nairobi Stock Exchange (NSE) to date. The Kenyan government initiated a rescue plan which has turned around the company. Its store format reflects the fact that Uchumi targets customers from all socio-economic classes. Its four hypermarkets with large parking areas along the main entry/exit roads in Nairobi mainly attract high- and middle-income consumers. Its smaller stores in the city's residential areas (estates) mostly target middle-income consumers. Its city centre stores near busy bus stages (5,000-20,000 sq. ft) mostly attract the middle-to low-income consumers. In 1997, Uchumi was the first major chain in Kenya to introduce fresh fruits and vegetables (FFV) in its stores as a sign of being customer responsive. Starting out with some trial sales, FFV sales are now over Ksh50m. per month. Today, all Uchumi branches have a FFV section, although their size and assortment vary with the customer base. Notwithstanding this broad customer targeting, FFV sales at Uchumi are still very much focused on Nairobi and its hypermarkets.

Neven and Reardon (2004) reveal that privately-owned Nakumatt was established in Nakuru in 1985 (then still Nakuru mattress) and remained a small operation until it moved to Nairobi in 1992. By assertively opening stores in key locations and by expanding existing ones, Nakumatt grew into a major supermarket chain with 12 large-size branches in Kenya's three main urban centers (9 in Nairobi, 2 in Mombasa, 1 in Kisumu). Nakumatt's growth is facilitated by being part of a network of companies with cross-shareholdings (Nakumatt Holdings), which gives it an excellent access to finance (investment loans), human resource (rotating managers) and physical capital (such as trucks). In 1995, inspired by first-hand experience with large, customer-oriented US retail formats, Nakumatt introduced the super centre store format into Kenya (i.e., department stores with a fully fledged supermarket added a Wal-Mart). Today 8 of its 12 branches can be categorized as super centres. One of these, the Nakumatt Mega branch in Nairobi, has 175,000 sq. ft of floor space, making it the largest retail outlet in East Africa.

The large average size of its stores explains why, although it has less than half the number of outlets of its main competitor Uchumi, Nakumatt has 30% more floor space (585, 000 sq ft vs 450, 000 sq ft). Throughout, Nakumatt's consumer focus has been mainly on the high-income segment (50% of its customers fall into this category). In 2001 Nakumatt started selling Fresh Fruits and Vegetables (FFV) in its stores. Hesitant at first, it has now fully embraced the FFV section and is rapidly expanding it; all its branches have a modern FFV section. Chain-wide sales have grown to Ksh16m. per month and are expected to grow to Ksh50m. per month within the next three years.

2.7.3 Second and third tiers

Neven and Reardon (2004) indicate that the second tier in the hierarchy consists of the medium-sized Tuskys, Ukwala and Naivas chains with an estimated 6%, 4% and 4% of the supermarket sector respectively. All the three are catering to and fiercely competing for the shilling vote of the middle to low-income urban consumers. Tuskys and Ukwala operate stores located

downtown near the busy bus stations used by consumers in this income class, who do part of their shopping before going home at the end of the day. The Tuskys and Nakumatt chains are in strategic partnership which, given the two chains' complementing customer bases, targets urban households from the lowest to the highest income category. The third tier, the remaining 38% of the supermarket sector, consists of a varied group of smaller chains and independent stores. Here we find the supermarkets located in the smaller towns as well as those that have traditionally catered to high-income groups and expatriates (e.g., Msettlers' stores). These stores compete with the above chains by moving to and expanding in under-served areas, adjusting their product assortment with specialty foods for a particular target group (e.g., expatriates) and/or developing a more personalized service. The small chains group consists overwhelmingly of 2-branch and 3-branch chains (68% and 27% respectively).

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

The study was carried out through a descriptive survey design on assessing the impact of outsourcing on lead time and customer service in supermarkets within Nairobi. This research was considered appropriate as it deals with many members in a population where it is not possible to study all of them and hence calling for sampling in order to come up with generalizations and inferences about the whole population. Similar studies that had successfully used this research design are Mageto (2009), Ombati (2007) and Narizon (2005).

3.2 Population

The population of this study was drawn from all supermarkets based in Nairobi as listed in the yellow pages of the Nation Business Directory (NBD), Nairobi (2008). Sailewu (2001) used lists compiled by the Dairy Industry, but the Nation Business Directory provides the most comprehensive listing of one hundred and two (102) supermarkets in Nairobi. This list was used by Mageto (2009) and it will therefore be adopted as the basis of defining the population for this study.

3.3 Sample

The sample of this study consisted of fifty (50) supermarkets within Nairobi. The fifty supermarkets were selected from a sampling frame of hundred and two (102) sampling unit using stratified random sampling. Data for the study came from self-administered questionnaires which were distributed to 50 respondents. Sailewu (2001) used a sample of fifty (50) supermarkets. Similarly, Ngatia (2000), Mwanyota (2004) and Mageto (2009) used a sample of fifty (50). All these studies consisted of a population of all supermarkets in Nairobi, similar to this study. Therefore, a sample of size of fifty (50) supermarkets was deemed sufficient to be adopted for this study. Supermarkets with one branch and those with more than one branch were considered as the only two categories that exist. The sample constituted of 75% supermarkets with more than one branch and 25% of single branch supermarkets drawn from Nairobi. This enabled the researcher to get the mixed perception of the two groups as far as outsourcing of services is concerned. The supermarket with more than one branch information was collected from the head office thus the supermarket was treated as one organization.

3.4 Data collection

Primary data was collected by means of semi-structured questionnaires. Semi-structured in the sense that both open-ended questions intend to elicit qualitative responses about respondents views whilst closed ended questions intend to elicit quantitative data for statistical analysis.

The questionnaire had three sections, section one dealt with general information of the participant and the organization. Section two; sought information on the extent services are outsourced by supermarkets within Nairobi. Section three; sought information on the impact of outsourcing on lead time and customer service. This was in line with the objectives of the study. The respondents to the questionnaire were operations managers or the procurement managers or marketing managers or their equivalents at the head offices of the supermarkets. Piloting of the questionnaire was done to assist the researcher identify any ambiguous and unclear questions. The questionnaires were dropped and picked later.

3.5 Data analysis

Data was collected and analyzed using Statistical Package for Social Scientists (SPSS). To establish the extent to which various services are outsourced descriptive statistics was used by way of frequency distribution, percentages and cumulative percentages to analyze the data. Pearson rank correlation analysis was used to assess the impact of outsourcing on lead time. Frequency distribution and Percentage were used to establish the extent variables that manifest Customer Service Management are implemented by supermarkets.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter covers data analysis, discussions and findings of the research. The data is summarized and presented in form of frequency, percentage, cumulative percentage and tables. Data was collected from supermarket headquarters in Nairobi, Kenya. Consequently, the collected data was analyzed and interpreted in line with the objectives of the study which included: to establish the extent to which services are outsourced by supermarkets and the impact of outsourcing on lead time. Out of 50 questionnaires distributed for this research, 32 useable questionnaires were returned giving a response rate of 64 per cent, which was considered satisfactory for subsequent analysis.

4.1.1 Ownership structure

Respondents were asked to indicate the ownership structure of their firms. From the research findings 96.9% of the firms were privately owned while 3.1% were owned by the government. This means that a very high number of supermarkets in Nairobi are owned by the government. This is consistent with most countries such as USA, China and Japan where majority of retail stores are privately owned.

4.1.2 Number of Employees

The researcher also wanted to know the number of employees in each firm. From the research findings 31.3% of the firms have less than 250 employees, 25% of the firms have between 251 and 500 employees while 43.8% of the firms have 501 and above employees. This confirmed there are few supermarkets which control the market. This is the first tier, second tier and the third tier as highlighted in the literature.

4.1.3 Size of Trading Floor (Square Ft)

The researcher also wanted to know the size of the supermarket's trading floor. From the research findings most firms have a trading floor between 2001 and 4000ft while very few firms have a size of 4001 to 6000ft. No firms were found to have a trading floor size of 6001ft and above as shown in the table 4.1.1 below. Therefore 90.6% of the supermarkets researched qualified to be supermarkets as per the definition by supermarketnews.com.

Table 4.1.1: Size of trading floor (square ft)

Size of floor	Frequency	Percentage
2000 and less	11	34.4
2001-4000ft	18	56.3
4001-6000ft	3	9.4

6001 and above	0	0.0
Total	32	100.0

Source: Research Data

4.1.4 Number of Categories of Items

Respondents were also asked to state number of categories of items in their firms. From the research findings 90.6% of the firms have more than 41 categories of items as shown by table 4.1.2 below. This is consistent with the definition given by supermarketnews.com.

Table 4.1.2: Number of Categories of Items

Categories of items	Frequency	Percentage
0-20	1	3.1
21-40	2	6.3
41 and above	29	90.6
Total	32	100.0

Source: Research Data

4.1.5 Total Number of Items

Respondents were also asked to state the number of items in their firms. From the research findings 62.5% of the firms have more than 10,000 items while 31.3% have 2,000-10,000 items. Besides, 6.3% of firms have less than 2,000 items. This is shown by the table 4.1.3 below.

Table 4.1.3: Total number of items

Number of items	Frequency	Percentage
Less than 2000	2	6.3
2,000-10,000	10	31.3
More than 10,000	20	62.5
Total	32	100.0

Source: Research Data

4.2 Services outsourced by supermarkets

The researcher also wanted to know the extent supermarkets outsource services. The services included: Consultancy and training, Administration of information and systems maintenance, Payroll processing, Recruiting/staffing, General accounting, Security, Facilities maintenance, Marketing, Fleet operations, Fleet maintenance and repair, General maintenance and repair, Freight brokering & audit and Advertising.

From the research findings, Marketing and advertising are outsourced to a very large extent. Consultancy and training, Administration of information and systems maintenance, Security, Facilities maintenance and General maintenance & repair are outsourced by supermarkets to a large extent. Fleet operations and Freight brokering and Audit are outsourced to a small extent. Payroll processing, Recruitment/Staffing and General accounting are sourced to no extent. This is evident from the table below:

Table 4.2.1: Extent services are outsourced by supermarket

Services outsourced		Extent services are outsourced					
		Very large extent	Large Extent	Small extent	Very small extent	No extent at all	Total
a) Consultancy and training	Frequency	10	14	4	4	0	32
	Percentage	31.3	43.8	12.5	12.5	0	100
b) Administration of information and systems maintenance	Frequency	3	15	7	7	0	32
	Percentage	9.4	46.9	21.9	21.9	0	100
c) Payroll processing	Frequency	0	0	0	1	31	32
	Percentage	0	0	0	3.1	96.9	100
d) Recruiting / Staffing	Frequency	0	0	0	1	31	32
	Percentage	0	0	0	3.1	96.9	100
e) General accounting	Frequency	1	0	2	3	26	32
	Percentage	3.1	0	6.3	9.4	81.3	100
f) Security	Frequency	5	16	6	3	2	32
	Percentage	15.6	50	18.8	9.4	6.3	100
g) Facilities maintenance	Frequency	1	16	12	2	1	32
	Percentage	3.1	50	37.5	6.3	3.1	100

h) Marketing	Frequency	13	8	4	4	3	32
	Percentage	40.6	25.0	12.5	12.5	6.4	100
i) Fleet generations	Frequency	1	5	15	5	6	32
	Percentage	3.1	15.6	46.9	15.6	18.8	100
j)Fleet maintenance management	Frequency	2	6	14	3	7	32
	Percentage	6.3	18.8	43.8	9.4	21.9	100
k)General maintenance repair	Frequency	2	11	14	3	2	32
	Percentage	6.3	34.4	43.8	9.4	21.9	100
l)Freight brokaging and audit	Frequency	1	8	10	6	7	32
	Percentage	3.1	25.0	31.3	18.8	21.9	100
m) Advertising	Frequency	16	6	6	2	2	32
	Percentage	50.0	18.8	18.8	6.3	6.3	100

Source: Research Data

4.2.1: Outsourcing mistakes

The researcher sought to know whether the supermarkets make mistakes when outsourcing. According to the research findings 90.6% of the supermarkets commit mistakes while 9.4% do not. The study further reveals that commonly committed mistakes include: Outsourcing from inefficient firms, underpayment or overpayment, avoiding accountability, ignoring the customers' unique needs and not involving other stakeholders in outsourcing.

4.3 The impact of outsourcing on lead time

The researcher also wanted to know the extent outsourcing influence lead time. Lead time is a summation of Queue time (Q), Set-up time (SU), Problem solving time (PS), Run time (R), Waiting time (WTM) and Sychron time (ST). From the research findings, outsourcing influence Queue time to a very large extent whist Set-up time, Problem solving time, Run time, Waiting time and Sychron are influenced to a large extent. This is shown by the table 4.3.1 below.

Table 4.3.1: Extent outsourcing influence lead time components

Lead time components	Extent outsourcing influence lead time					
	Very large extent	Large Extent	Small extent	Very small extent	No extent at all	Total

Queue time	Frequency	20	5	5	2	0	32
	Percentage	62.5	15.6	15.6	6.3	0	100
Set up time	Frequency	8	16	7	1	0	32
	Percentage	25.0	50.0	21.9	3.1	0	100
Problem solving time	Frequency	8	17	5	1	1	32
	Percentage	25.0	53.1	15.6	3.1	3.1	100
Run time	Frequency	8	15	4	3	2	32
	Percentage	25.0	46.9	12.5	9.4	6.2	100
Waiting time	Frequency	14	13	4	0	1	32
	Percentage	43.8	40.6	12.5	0	3.1	100
Synchron time	Frequency	7	15	8	1	1	32
	Percentage	21.9	46.9	25.0	3.1	3.1	100

Source: Research Data

4.3.1: Correlation matrix

The outsourced services were correlated in a correlation matrix with lead-time components as shown in the table 4.3.2 below. The researcher established that the outsourced services were positively correlated to lead time components. On average, the correlation co-efficient (r) is 0.66 which implies coefficient of determination (r^2) is 43.6%. Therefore 43.6% change in lead time can be explained by outsourcing.

Table 4.3.2: Correlation matrix**Lead time components**

Outsourced services	Set up time	Queue time	Run time	Waiting time	Synchron time	Problem solving
Set up time	1.000	0.652	0.520	0.652	0.700	0.539
Queue time	0.652	1.000	0.672	0.645	0.609	0.643
Run time	0.520	0.672	1.000	0.407	0.454	0.523
Waiting time	0.692	0.645	0.407	1.000	0.624	0.757
Synchron time	0.700	0.609	0.454	0.624	1.000	0.441
Problem solving	0.539	0.643	0.523	0.757	0.441	1.000

Source: Research Data

4.3.2 Stock out

The researcher also wanted to know the extent supermarkets face stock out. From the research findings 28.1% of the supermarkets face stock out to a very large extent, 50% to a large extent, 12.5% to a small extent, 6.3% to a very small extent and 3.1% to no extent as shown in the table 4.3.8 below.

Table 4.3.3: stock out

Extent	Frequency	Percentage
Very large	9	28.1
Large	16	50
Small	4	12.5
Very small	2	6.3
No extent	1	3.1
Total	32	100.0

Source: Research Data

4.3.3 Variables manifesting Customer Service Management

The researcher also wanted to know the extent the variables manifesting Customers Service Management (CSM) are implemented. From the research findings market research, record of customers' requests, complaints and transactions for future reference, customers' feedback on items and services, and customers' relationship management are implemented to a very large extent whilst monitoring changes in customers' expectations, record of customers' complaints and transactions for future references, and post-mortem when a customer is lost are implemented to a large extent as shown by the tables 4.3.4 below.

Table 4.3.4: Variables manifesting customer service management

Variable		Extent services are outsourced					
		Very large extent	Large Extent	Small extent	Very small extent	No extent at all	Total
Market Research	Frequency	14	11	4	3	0	32
	Percentage	43.8	34.4	12.5	9.4	0	100
Monitoring changes in customers expectations	Frequency	9	16	4	2	1	32
	Percentage	28.1	50.0	12.5	6.3	3.1	100
Recording of customers request complaints and transactions for future reference	Frequency	13	13	3	2	1	32
	Percentage	40.6	40.6	9.4	6.3	3.1	100
Customers feedback on items and services	Frequency	16	13	0	3	0	32
	Percentage	50.0	40.6	0	9.4	0	100
Customers complaints and feedback are worked on to improve the items and services	Frequency	16	13	0	3	0	32
	Percentage	50	40.6	0	9.4	0	100
Customer relationship management	Frequency	19	10	2	1	0	32
	Percentage	59.4	31.3	6.3	3.1	0	100
Post-mortem when a customer is lost	Frequency	12	17	2	1	0	32
	Percentage	37.5	53.1	6.3	3.1	0	100

Source: Research Data

4.3.4 Challenges facing supermarkets

The researcher wanted to know whether supermarkets face challenges in meeting customers' needs and their mitigation. From the research data collected all supermarkets face challenges which include: very high competition among supermarkets, inadequate backing space, price fluctuations, transportation and logistics challenges, physical challenges in terms of location and working for long hours hence need for shift system to maintain service levels.

The respondents did not respond to part (c) of the question which sought suggestions on mitigation of the above challenges. Therefore no data was collected on this aspect.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings and makes conclusions based on the two specific objectives of this study i.e. to establish the extent to which various services are outsourced by supermarkets in Nairobi and to assess the impact of outsourcing on lead-time and customer service.

5.2 Summary and conclusions

The analysis indicates that supermarkets outsource services. Marketing and advertising are outsourced by supermarkets to a very large extent. Consultancy and training, Administration of information and systems maintenance, Security, Facilities maintenance and General maintenance & repair are outsourced by supermarkets to a large extent. Fleet operations and Freight brokering and Audit are outsourced by supermarkets to a small extent. Payroll processing, Recruitment/Staffing and General Accounting are outsourced to no extent. Outsourcing was considered to impact on lead time. Due to this, a research was carried out to assess the impact of outsourcing on lead time. The research also established that supermarkets implement the variables that manifest Customer Service Management (CSM) as a strategy to retain customers and remain competitive.

This study did determine that there is a positive correlation between outsourcing and lead time. This was possible through the use of correlation analysis. The study also established that supermarkets commit mistakes while outsourcing. Besides, the study reveals that there are quite a number of challenges facing the supermarkets in trying to meet the varied needs of customers.

5.3 Recommendations

Supermarkets management should consider outsourcing as it reduces lead time and make them flexible in meeting varied needs of the customers. They should also implement variables that manifest Customer Service Management (CSM) to retain their customers, remain competitive and increase their market share.

When outsourcing, supermarkets should consult other stakeholders to minimize mistakes committed.

5.4 Limitation of the study

The supermarket industry in Kenya currently is characterized by a large number of competitors. This made it very difficult to collect data from some supermarkets. Some could hold back some information for fear that it might be used against them by their competitors.

The supermarket industry is a very busy industry and this made it challenging collecting data from some units across the day. It required that the data be collected very early in the morning before the day gets busy. Due to time limit this was not practical.

5.5 Suggestions for further research

The researcher conducted a survey in supermarkets in Nairobi, Kenya and recommended that a study should be carried to determine the effect of outsourcing on profitability. A research should also be carried to survey the challenges that face supermarkets when outsourcing.

REFERENCES

- Abraham, K.G. and Taylor, K.S (1996), "Firms use of outside contractors: Theory and Evidence" *Journal of labour Economics Vol.14*, pp.394-424
- Agnese, J. (2003), "Industry Surveys: Supermarket & drugstores", *June 26*, available at: www.standardpoors.com.
- Barker et al., (1956), *Principles of Retailing*, New York, McGraw Book Company.
- Bartezzaghi et al., (1994), "International Journal of Operations Management", Vol.14 No.5, PP.5-20
- Barthelemy, J. (2003), "The seven deadly sins of outsourcing", *Academy of Management Executive*, Vol.17 No.2, PP. 87-99.
- Blisard et al., (2002), "America's changing appetite: food consumption and spending on 2020" *Food Review*, Vol. 25 No.1, PP. 2-9
- Bower, J.L. and Hout, T.M. (1988), "Fast-cycle capability for competitive advantage", *Harvard Business Review*, Vol. 19 No.8, PP.797-811.
- Bozarth, C.C. (2008). *An introduction to operations and supply chain management*, Pearson Education, Inc., Upper Saddle River, New Jersey
- Brend-Samuel, P. (1999). *Turning Lead into Gold: The Demystification of outsourcing*, Financial Times, Prentice Hall
- Chan et al., (2003), "A conceptual model of performance measurement for supply chains", *Management Decision*, Vol. 41 No.7, pp. 635-42
- Christopher, M (1998). *Logistics and supply management*, 2nd edition. Financial times, Pretice Hall.
- Cook, S. (2002). *Customer Care Excellence*, 4th edition, Page Ltd, London.
- Chanzu, S. M (2002), "A survey of Business Outsourcing practices among private manufacturing companies in Nairobi" Unpublished MBA project, University of Nairobi, Nairobi, Kenya.
- Duff, M. (2004), "Loblaw's new combo stores cover both ends of markets", *DSN Retailing Today*, Vol.43 No.3, pp.1-50.
- Deloitte and Touche (2002). *Multi-Client Shared Services: Outsourcing's new model*, Illinois: Executive Excellence Publishing.
- Eisenhardt, K (1985) *Control: Organization and economic approaches*, management science, pp. 31, 133(4)-149.
- Elmuti, D. (2003), "The perceived impact of outsourcing on organizational performance", *Mid-America Journal of business*, Vol.18 No.2, pp. 33-7

Feenstra, R and Hanson, H. (1999), “The impact of outsourcing and high-technology capital of wages: Estimates for United States” *Quarterly Journal of economics*, vol.114, pp. 707-940

Grossman, G.M., Helpman, E (2005). Outsourcing in a global economy, *Review of Economic Studies*, 72, 135-159

Hasty, R.W. (1983), *Retailing*, 3rd ed, New York, Harpert and Row.

Jacobs, F. R. (2009). *Operations and Supply Management*, 12th ed, Indiana University.

Heshmati, A. (2003), “Productivity growth, efficiency and outsourcing in manufacturing and service industries” *Journal of Economics surveys*, vol.171 pp.79-112

Jones, D.T. (2001), “Thinking outside the box”, *ECR Journal*, available at: www.leanuk.org/articles/thinking-outside-the-box.pdf.

Karemu C.K (2003), “The state of start management practices in retailing sector: The case of supermarkets in Nairobi”, Unpublished MBA project, University of Nairobi, Nairobi, Kenya.

Kanter, R (1994), Collaborative advantage. *Harvard Business Review*, Vol. 72, July-August.

Khong, K.W., Nair, M. (2004), “The effects of customer service management on business performance in Malaysian banking industry: an empirical analysis”, *International Journal of Banking and Marketing*.

Khong, K.W., Richardson, S. (2003), “Business Process Re-engineering (BPR) in Malaysian banks and finance companies”, *Managing Service Quality*, Vol. 13 No.1, pp. 54-71.

Kinyua, S. (2000), “A survey on outsourcing of selected financial activities by publicly quoted companies in Kenya”, Unpublished MBA project, University of Nairobi, Nairobi, Kenya.

Kirui, S.K.L (2001), “Competitive Advantage through Outsourcing of non-core logistics Activities within the Supply Chain of British America Tobacco Kenya”, Unpublished MBA project, University of Nairobi, Nairobi, Kenya.

Kotler, P. (2000). *Marketing Management*, 10th ed., Prentice Hall, Englewood Cliffs. NJ.,

Kotler, P. (2003). *Marketing Management*, 11 ed., India Branch, Delphi: Pearson Education (Singapore) Pte.Ltd.

Kumar, N, Corsten, D., (2007), “Profits in the pie of the beholder”, *Harvard Business Review*, May, pp. 22-2

Kyalo, S. (2001), “A survey of private labeling strategy by supermarkets in Kenya”, Unpublished MBA project, University of Nairobi, Nairobi, Kenya.

Lewis, S. (2000), “Customer-centered business key to survival”, *Asian business*, Vol.36 No.10, pp. 63.

Lutta, S.M (2003), “Outsourcing of distribution logistics with supply chain of E.A Breweries Ltd” Unpublished MBA project, University of Nairobi, Nairobi, Kenya.

Lysons, K and Farrington, B (2006). Purchasing and Supply Chain Management, 7th ed, Prentice Hall, Pearson Education.

Mageto, J.N (2009), "Relationship between supply chain management and supply chain

Responsiveness: A survey of supermarkets in Nairobi-Kenya", Unpublished MBA project, University of Nairobi, Nairobi, Kenya.

Mather, H. (1988), Competitive Manufacturing, Prentice-Hall, Englewood Cliffs, NJ.

McCutcheon, D. (1995), "Problem sources in Establishing Strategic Supplier Alliance", *International Journal of Purchasing and material management* Vol.35 No.2, pp. 89-99.

Meredith, R. J and Shafer, M. S. (2003). Introduction to Operations Management, John Wiley and Sons.

Mwanyota, J. L (2004), "Integrating supply chain management and enterprise resource planning systems: A survey of supermarkets in Nairobi", Unpublished MBA project, University of Nairobi, Nairobi, Kenya.

Namu, W.C (2006), " Use of benchmarking as a performance improvement tool. A case of KPLC", Unpublished MBA project, University of Nairobi, Nairobi, Kenya.

Neven, D and Reardon, T (2004), *Development Policy Review*, 2005, 22(6): 669-699

Neven, D and Reardon, T (2005), Kenya supermarket research project available at: www.nationbusinessdirectory

Ngatia, E.M. (2000), "A Comparison of Service Providers & Customer Perceptions of Service Quality in the retailing Industry: A Case of supermarkets in Nairobi", unpublished Masters of Business Administration Research Project, University of Nairobi, Nairobi, Kenya.

Ombati, O.T. (2007), "A survey of the relationship between technology and service quality in the banking industry in Kenya", Unpublished MBA project, University of Nairobi, Nairobi, Kenya.

Parker, D.W and Rusell, K.A (2004), "Outsourcing and inter/intra Supply Chain dynamics: strategic management issues", *Journal of Supply Chain management*. pp. 40-4, 56-68

Pearce & Robinson (1997). Strategic management: Formation, Implementation and control, Irvin/McGraw-Hill, sixth Edition

Peter, M.E and Waterman (1982). In search for Excellence, New York, Harper Row.

PriceWaterhouse Coopers (2000). Growth companies that outsource grow faster, larger, and were profitable than non-out sourcers, PriceWaterhouse Coopers, Yankelovich Partners, Goldstain consulting Group, New York, NY

PriceWaterhouse Coopers (1999). Global Top Decision-Markers Studying on Business Process outsourcing, PriceWaterhouse, Yankelovich Partners, Goldstain Consulting Group, NEW York, NY

- Randall, H.L (1993), *Contract logistics. Is outsourcing right for you?* The Free Press.
- Randall, T. and Ulrich, K. (2001), "Product variety, supply chain structure, and firm performance: analysis of the US bicycle industry", *Management Science*, Vol. 47 No. 12, pp.1588-604.
- Tesco-Company Information (2002), December 13, available at: www.tesco.com.
- Sailewu, E (2001) "The perception of supermarkets in Nairobi on the use of E-marketing", Unpublished MBA project, University of Nairobi, Nairobi, Kenya.
- Shingo, S. (1989). *A Study of the Toyota Production System from an Industrial Engineering Viewpoint*, Productivity Press, New York, NY.
- Slack, N. (1987), "The flexibility of manufacturing systems", *International Journal of Operations & Production Management*, Vol. 7 No. 4, pp.35-45.
- Stadler, K. (2002), "ECR: leveling the playing field", *Food Logistics*, Vol.53 pp.15.
- Stevenson, W. J (2007). *Operations Management*, 9th edition, The McGraw-Hill, New York.
- Supermarket News (2003), Global Top 25, available at: www.supermarketnews.com/sns-top-global-retailers/.
- Waters, D (2002). *Operations Management*, 2nd edition, Pearson Education, Harlow, England
- Uchumi (2003). *Annual Report and Accounts 2003*. Nairobi: Uchumi Supermarkets Ltd.
- World Bank (2003), *A User's Guide to Poverty and Social Impact Analysis*, World Bank Group, Washington, DC, *Poverty Reduction Group and Social Development Department*.