

# A SURVEY OF OPERATIONS STRATEGIES PURSUED BY INTERURBAN PSV BUS COMPANIES IN KENYA

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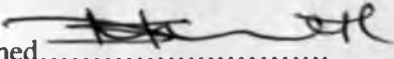
Research Project Submitted in Part Fulfillment of the Requirements for the Award of the  
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## DECLARATION

This management research project is my original work and has not been submitted for a degree award in this or any other University

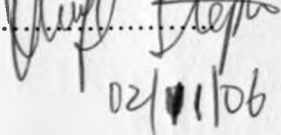
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## DEDICATION

To all my family members. Special dedication to my lovely wife Ann Kamau for her support and encouragement. I would also like to thank my parents Mr. & Mrs. Daniel Wamathu, Mr. & Mrs. Peter Ng'ang'a for their prayers, love and understanding. This gave me determination to continue.

## **ACKNOWLEDGEMENTS**

First and foremost I thank God for giving me strength and ability to undertake the whole of my MBA course. He supplied all what I needed in to the success of this program.

Special gratitude and appreciation to my supervisors, Mr. Nyamwange and Mr. Kenduiwo for their invaluable advice, patience and encouragement. I would also like to thank Mr. Okello, Mwangi, Munene and Tom for their support.

I must not forget to thank all the respondents in PSV bus firms under the study for their cooperation and for providing relevant data without which the project would not have been completed.

Lastly but not least, to my dear wife, my parents and other family members for their moral and spiritual support. May the Almighty God bless you all.

## **ABSTRACT**

Great challenges have been experienced in transport industry due to globalization and liberalization. It is very critical therefore that they look at their operations strategies in order for them to be competitive in this turbulent market. This research sought to find out the operations strategies that are pursued by interurban bus firms, as a way of remaining competitive. The other objective was to survey on the challenges faced by these firms in formulation and implementation of these competitive priorities.

A semi- structured questionnaire was used to collect primary data. Data was thereafter, analyzed using descriptive statistics through use of means scores, percentages and content analysis. Inferential statistics:-Wilcoxon signed rank test and Kruskal Wallis test were used to test whether there are any significant differences among the rankings of the various competitive priorities.

The findings of this research indicated that, PSV bus firms acknowledge that operations based strategies enhance the competitive capability of the firms by contributing to the long term business performance and success. The study also found that, the competitive priorities on which PSV bus firms compete in their order of rank were: (1) Timeliness, (2) Cost, (3) Reliability, (4) Quality (6) Customer care, (7) Service quality, (8) Flexibility and (9) Fare Incentives. It also collected data on the challenges faced in formulating and implementation these strategies.

### **Key Words:**

Operations Strategies, Competitive priorities and Competitive capability which have been used interchangeably in this project

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# CHAPTER ONE: INTRODUCTION

## 1.1 BACKGROUND TO THE STUDY

Hayes et al (1996) noted that, in most organization both private and public, whether engaged in making products or delivering services, the bulk of their human and financial resources are invested in their operations functions. Operations include all those activities required to create and deliver a product or service from procurement through conversion to distribution. Bus companies must therefore specify how they propose to create for themselves a competitive advantage by helping weld together the massive but disparate resources invested in operations into a cohesive purposeful whole. Befitting operations strategies can make it possible for them to compete through operations rather than around operations. Nyamwange (2001) further noted that, operations strategies are important because the operations function is responsible for a greater portion of the firm controllable assets (up to 80%). Operations strategies are concerned with setting broad policies and plans for using resources of the firm to best support the firm's long term competitive strategy.

The increasing movement of people and products at the local, regional, national, and international levels has placed extreme demands on transportation systems. Highway and air transportation system congestion are growing fast, and a transportation network developed to meet the needs of an age in which there was less travel and movement of materials, is ill-suited to today's needs.

In most metropolitan regions, there is no space available to expand highway and airport infrastructure, and there is strong environmental and political opposition when such expansion is proposed. One key to solving today's transportation problems is to develop systems that meet markets served poorly by the existing transportation infrastructure. By providing competitive travel times in a high-quality environment, operations strategies can attract significant numbers of passengers.

Oster et al (2000) argued that, road transport services and its associated infrastructure have long been regarded as key ingredients to the rate and pattern of economic growth. In the recent past, however, a number of changes have taken place in worldwide economies and in particular transport industries. In the past, road transport infrastructure and services were provided by the government directly, but the current trend is shifting the operation and ownership to private hands.

In October, 2003, the then Minister for Transport and Communications, Honorable Michuki reinforced traffic rules in regard to Road Transport touching on: - fitting vehicles with speed governors, seat belts, no standing passengers and good conduct certificate contained in (the traffic act cap 403). This saw the entry of many new operators in this industry hence the need for operations strategies in order to be competitive.

The opening of EAC has created a big business for transporters. Bus companies must therefore formulate befitting operations strategies which will be competitive in international markets Globalization has emerged as another broadly attractive company and operations strategy. It has created a wealthy mass market.

Mokaya (2003) in his study noted that, PSV transport firms are faced with major threats including among others the dilapidated state of roads, congestion, entry by new competitors, unofficial route franchising and the escalating operating costs. From a preliminary research, it was found that fuel price had skyrocketed by around 18-25% per annum from year 2003-2006. This in turn eroded the profit of these companies hence a dire need for appropriate operations strategies in order for them to survive. To achieve competitive advantage, firms must 'produce chaos in the market and not react to chaos'. In order to formulate right operations strategies, it is necessary that the firm considers its industry structure since it has a strong influence in defining the rules of the competition game as well as the strategies potentially available to firms operating in the industry. In PSV industry, for example, the effect of the service is very critical hence the need to employ operations strategies that lead

to added value in terms of convenience, timeliness, safety, reliability and comfort among others.

## **1.2 STATEMENT OF THE PROBLEM**

Hayes et al (1996) noted that, customer needs are continually changing; hence, firms must generate greatest customer value and sustain it over time for them to remain profitable in business. With liberalization and open market system in transport industry, it is easy for new entrants to come on board. This has in turn brought about stiff competition hence great need for changing the way passenger bus companies are managed. For firms to be effective and successful, they should respond appropriately to changes in the market. Deployment of operations strategies is intended to reduce congestion, improve safety, enhance mode choice, and stimulate economic growth.

Hayes et al (1996) further noted that, 'the swelling number of global competitors and new entrants has caused competition to become increasingly ferocious, and technological changes is inundating even the most innovative companies.

A number of studies have been conducted on Kenyan passenger firms but have concentrated on corporate and marketing strategies and specific best practices. So far none has focused on competitive priorities on passenger transport. Mokaya (2003) in his paper recommended a further study to be carried to find out the management practices that are used by the players in transport sector and their level of competence. Mwaura (2002) felt that, the area of consumer satisfaction with the respect to Matatu services are still largely an unexplored hence need for more research. Langat (1996) also noted that, while studies have been carried out on the operation of city buses, he is not aware of any study involving the operations of bus companies plying the long distance routes in Kenya hence need for study to cover a cross section of companies in the transport road businesses. Nyamwange (2001) also recommended a study of operations strategies in other sectors of the economy like service industry in his paper about manufacturing priorities.

This research sought to identify the operations strategies that are pursued by PSV bus firms and whether they meet the organizational objectives. It also aimed at finding out whether some of these priorities are preferred than others. Further, the research sought to answer the following questions: - What are the competitive operational priorities applicable in bus passenger transport services? Which operations strategy do they consider more important and challenges faced in implementing them?

### **1.3 OBJECTIVES OF THE STUDY**

The objectives of the research were:

- 1) To establish the operations strategies that are pursued by interurban PSV bus firms and how they rank them.
- 2) To establish the challenges faced by these firms in implementing these operations strategies.

### **1.4 IMPORTANCE OF THE STUDY**

The findings of this study are expected to be of particular interest to the PSV bus operators. This would be achieved by providing them with valuable information on various operations strategies that are currently being pursued in this industry. The findings would also help them in deciding which competitive priority to prioritize.

Also to benefit from this study is the new investors who want to explore this business. They will be enlightened on the operations strategies they can employ so that they can be competitive enough in this Industry.

To the researchers and academicians, it is expected that the study will form a base of the development of operations strategies for the PSV bus operators in Kenya.

It is also expected that the study will be of significance to other organizations faced with similar operations. Nyamwange (2001) noted that, most if not all of the operations management knowledge available is on practices in the west and little is known about local practice.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 OPERATIONS STRATEGY DEFINITION**

Operations strategies according to Hayes et al (1996) are set of goals, instructions, and self-imposed restrictions that together describe how organization proposes to develop and direct all the resources invested in operations so as to best fulfill and possibly redefine its mission. He further argued that company's Operations Strategies, have to begin with a statement specifying how it proposes to create for itself that chosen form of competitive advantage. Most companies only seek out and emulate the best practices of so called world class companies hence end up investing in processes and infrastructures that are not necessarily in line with the requirements of its market. The firm's corporate strategy should be based on the corporate mission, and in essence reflect how the firm plans to use its resources and functions (marketing, Finance, Operations etc) to gain competitive advantage.

Also Gaither (1996) defined operations strategies as long range game plan of an organization that provides a road map of how to achieve the corporate mission. He further noted that, these strategies are embodied in the company's business plan which includes a plan for each functional area of the business including production; marketing and finance. Russel and Taylor (2000), on the other hand noted that, operations strategies deal with converting strategies into results. It is evident from the above various definitions that operations strategies play a fundamental role in coming up with strategic preferences which an organization chooses to compete in the market place.

### **2.2 OPERATION STRATEGIES PARADIGM**

Wichham Skinner, a professor from Harvard, began a revolution in the early 1970's that resulted in the development of strategic thought of operations function. His most important contribution was in pointing out that the cost cutting orientation of operations managers did not march well with a changing consumer taste for greater

product variety and higher quality in 1970's. Skinner's manufacturing strategy was further developed through the works of Wheelwright & Hayes (1985), Hill (1989), and Ferdows (1989) among others. They emphasized on how a firm can use their capabilities as strategic competitive weapon.

Several authors like Slack & Lewis (2002), Hill (1989) and Aquilano et al (1998) among others came up with a number of basic operation priorities which included quality, speed and reliability, dependability, flexibility and cost. Authors, as Bolwijn & Kumpe (1990), argued the existence of another competitive priority, innovation. Also Hill (2000), with the objective to understand the markets he argued that the companies need to distinguish between qualifiers and order winners criterias. He defined qualifier criteria as those criterias that the company should reach to become eligible as a potential supplier. The order winners, on the other hand, are those criteria that serve to gain the order.

### **2.3 COMPETITIVE OPERATIONS STRATEGIES**

Passenger transport industries are now seeking to differentiate themselves from their competitors in terms of various priorities. These priorities provide a marketing edge through distinct, unique technology developments in processes that competitors cannot match. Operations strategies also play a major role in providing a coordinated support for the essential ways in which the firm's services win orders over their competitors, also known as distinctive competencies. Most firms can share access to the same processes and technology but one may perform better than the other based on the degree which operations strategies matches its processes and infrastructure to its distinctive competencies. Kombo (1997), found that due to the ongoing economic reforms in the country, firms in the motor vehicle industry made significant changes in their strategic variables in order to survive in the competitive market. The firms introduced new technologies of product development, differentiated their services, segmented their customer more and improved customer services. Mwaura (2002) also noted that, public passenger transport sector has experienced a momentous growth in the economy and at the same time competition has been intensified. He also noted

that, customer loyalty cannot be guaranteed. Due to the lack of guaranteed customer loyalty, the vehicle operators have been forced to develop other services and repackage their service besides the basic transportation service as to maintain a consistent flow of commuters. The new services provided by transport industry represent not only reliability and timeliness but also flexibility and new modes of operations, thereby offering customer driven services, cost reduction and strategic comparative advantage. Details relative to each distinctive competency are provided hereunder:-

### **2.3.1 COMPETING ON COST**

Firms competing on a cost basis relentlessly pursue the elimination of waste. This will assist them in providing consumers with an in-demand service at a price that is competitively lower than that offered by firms offering the same or similar service. Operations Managers must therefore, address labour, materials, scrap, seek economies of scale and other costs while designing a system that lower cost per unit of product or service. Chase et al (1998) argued that, measurement of cost is considered to be the most developed of all the competitive priorities, perhaps, because of the management accounting systems that were mainly concerned with cost. In transport Industries it is critical that they reduce on cost of offering services especially fuel cost and other supplies through proper sourcing in order to be competitive.

### **2.3.2 COMPETING ON QUALITY**

Chase et al (1998) argued that, the levels of quality in a product's design will vary with the market segment to which it is aimed. Richu (2005) argues that, over the years the term quality has received various definitions like, please the customer, make it good etc. Garvin on the other hand suggested eight dimensions of quality in satisfying one's needs. These are performance, conformance, feature, durability, reliability, serviceability, aesthetics and perceived quality.

Firms competing on quality basis offer services that are superior to the competition on one or more of the eight dimensions. Obviously, it would be undesirable if not impossible for firms to compete on all eight dimensions of quality at once. This would be prohibitively expensive, and there are some limitations imposed by trade-offs that must be made due to the nature of the service. For example, a firm may sacrifice reliability in order to achieve maximum speed. Transport industry must seek feedback from customers' in order to serve them well.

### **2.3.3 SERVICE QUALITY**

Service quality is defined by Chase et al (1998) as the conformance of the service to customer's expectation and specifications. Customer value is the focus of competitive advantage. Any firm will be offering quality service only when customer expectations are met on consistent basis. This can be achieved through building a zero defect culture. He further noted that, customers tell twice as many people about bad service experiences as they do about good ones. Customers left unhappy, whether they complain or not, may destroy a service organization hence need for bus companies to uphold this operation strategy for competitiveness.

### **2.3.4 COMPETING ON FLEXIBILITY**

It means availability of quality service that meets customer needs when they need them. Customers want to deal with providers who offer high levels of quality flexibility (to change such things a volume specification) and also provide low costs, short lead time and little or no variability. They are not looking for trade off. The significance of uncertainty in the understanding of flexibility is used by Gervin (1987), to link different types of uncertainty with seven distinct elements of what could be regarded as optional level flexibility .Mix flexibility is linked to uncertainty in customer requirements for product or service. Changeover flexibility is the ability to handle additional /deletions to the service. This is common on road transport in that operators should reroute their buses as per the demand.



### **2.3.5 COMPETING ON TIME**

The ability to deliver more quickly than competitors is definitely a competitive advantage. Time has become a very important weapon for competition especially in service industry like passengers transport business. According to Stalk (1988), time is the source of competitive advantage currently exploited by world class firms. As a strategic weapon, time is the equivalent of money, productivity, quality, even innovation.

### **2.3.6 COMPETING ON INNOVATION**

Innovation involves connecting and rearranging of knowledge in the minds of people who will allow themselves to think flexibly to generate new often surprising ideas that others judge to be useful. Strategic alliances play a key role in fostering innovation by combining the knowledge and resources of two or more partners. For firms to be competitive they must focus on building knowledge, identifying core competencies and developing strong human resources. Firms must be careful not to lose their ability to generate innovation internally through wrong strategies. Meyer (2002) noted that, the appetite for innovation seems to be bottomless. To be successful in the future all parts of the business must undergo continuous innovation. A company's ability to innovate will depend on its capability, how it measures the opportunities both in the market internally and externally and the general creativity that business can apply to a particular problem. It is incumbent on the people in the industry to use all idea generating tools that are available. Many bus firms have come up with totally new services which include buses fitted with sanitary facilities, seats with massage, snacks in the bus and entertainment among others.

## **2.4 MAJOR APPROACHES TO OPERATIONS STRATEGIES**

### **2.4.1 TRADE OFFS**

The trade-off model by Skinner (1969) states that, unless there is some slack in the system, improving any one of the basic operational capabilities which included

quality, dependability, speed and cost, it is done at the expense of one or more of the other capabilities. The assumption here was that there must be tradeoffs in the choices made. Therefore for a firm to compete it had to differentiate itself along one of these basic strategies. However, some authors have argued that different basic strategies can be pursued simultaneously. Slack (2002) pointed out that, it is possible to simultaneously reduce cost and increase speed. This ties in well with Ferdows and De Meyer's "Sand Cone" model described below.

### **2.4.2 SAND CONE MODEL**

The Sand Cone model suggests that although in the short term it is possible to trade off capabilities one against the other, there is actually a hierarchy amongst the various capabilities. To build cumulative and lasting operational capability, Management attention and resources should go first towards enhancing quality and while the efforts to enhance quality are further being expanded, attention should be paid to improve also the dependability of the service system. Then and again while efforts on the previous two are further being enhanced, flexibility (or reaction speed) should also be improved, and finally, while all these efforts are further enlarged, direct attention can be paid to cost efficiency.

Most of the traditional management approaches for improving manufacturing performance are built on the trade-off theory. Ferdows and De Meyer (1989) suggest that, trade-off theory does not apply in all cases. Rather, certain approaches change the trade-off relationship into a cumulative one. This means one capability is built upon another, not in its place. They further noted that, in applying this model, it requires a long term approach, tolerance and patience. It requires believing that costs will eventually come down.

### **2.4.3 ORDER WINNERS/QUALIFIERS**

Operations strategist and author Hill (1989) introduced the terms qualifier and order winner. A qualifier is a competitive characteristic a firm or product must be able to exhibit to be a viable competitor in the marketplace. An order winner is a competitive

characteristic of a product or service that causes a customer to choose this firm's product or service rather than that of a competitor (distinctive competence). For example, say a consumer in the market for a new automobile has a predetermined level of quality that the automobile must possess before being considered for purchase. The consumer has narrowed his or her choice down to five models of automobile that all meet this minimum quality requirement. From this point the consumer, with all else being equal, will probably purchase the automobile that he or she can get for the least cost. Therefore, quality is the qualifier (must be present to be considered) and cost/price is the order winner (basis for the final choice).

## **2.4 THE MARKET –LED AND RESOURCE DRIVEN APPROACHES TO STRATEGY**

The market-based and the resource-based views of the firm provide alternate views of how to achieve strategic fit. The market-led view proposes that firms gain competitive advantage through identifying external opportunities in new and existing markets or market niches and then aligning the firm with these opportunities. This view has pervaded over time by Porter (1985). In this approach competitive changes within markets determine which markets the firm should enter, stay in, or exit. Consequently, strategic frameworks such as Porter's (1980) five forces model can be used to analyze industry structure and identify a market position that provides competitive advantage. Huff (1982) exemplified in Porter's generic strategies of cost-differentiation-focus. Under this approach, competitive strategies are devised by senior executives and translated into functional-level strategies through a top-down process.

Alternately, the resource-based view of competitive advantage suggests that the firm should assemble and deploy appropriate resources that provide opportunities for sustainable competitive advantage in its chosen markets to maximize returns. Competitive advantage is created not by the privileged end-product market position, but by distinctive, valuable firm-level resources that competitors are unable to

reproduce. Hayes et al (1985) argued that firms sustain competitive advantage through developing and guarding capabilities and competencies.

## **2.5 CHALLENGES TO OPERATIONS STRATEGIES IMPLEMENTATION**

There are various challenges that firms face in implementing operations strategies. Machuki (2005) argued that, challenges that occur during the implementation process of the operations strategies are an important area of research because even the best strategy would be ineffective if not implemented successfully.

Aaltonen and Ikavalko (2001) noted that, one of most important problem experienced in strategy implementation in many cases is lack of sufficient communication. They also argued that, the amount of strategic communication in most of the organizations is large, both written and oral communication but, a great amount of this information does not guarantee understanding and there is still much to be done in the field of communicating strategies. Machuki (2005) advocated that, communication should be two way so as to provide understanding, responsibility and staff motivation.

Ochanda (2005) identified barriers to strategy implementation which included: Competing activities that distract attention from implementing decision; Changes in responsibility of key employees not clearly defined; Key formulators of the strategic operations decision not playing an active role of implementation; Problems requiring top management involvement not communicated early enough; Key implementation task and activities not sufficiently defined; Information systems used to monitor implementation are inadequate; overall goals not sufficiently understood by employees and uncontrollable factors in the environment among others.

For Strategies formulation to be effective, Machuki (2005) noted that, senior managers must support this activity by allocating resources and change the organizational culture that hinder the implementation. He also observed that, lack of compatibility between strategy and culture can lead to high organizational resistance

to change and de-motivation which can in turn frustrate the implementation of the strategy.

## **2.6 THE ROLE OF MANAGERS IN ACHIEVING STRATEGIC RESONANCE**

Swamidass and Newell (1987) argued that, senior level managers need not be engineers or technicians to achieve strategic resonance. Involving the manager in strategic decision making has been positively related to firm performance. Involvement of managers improves their understanding of the strategic direction of the firm, requirements for manufacturing, and understanding of business objectives.

In addition, such influence improves firm's abilities to secure resources and helps to steer the decision-making process. Achieving strategic resonance will require senior executives and other personnel to participate in changing the strategic decision-making process. Strategic resonance will depend upon changes to three key areas: the strategy process itself, the content of the strategy, and the ability to operationalize the strategy.

## **2.7 THE NEED FOR OPERATIONS STRATEGIES**

Wheelwright and Hayes (1985) described four generic roles that operation strategies can play within a company, from a strategic perspective as explained below. In stage 1 firms are said to be internally neutral, meaning that the operations function is regarded as being incapable of influencing competitive success. Management, thereby, seeks only to minimize any negative impact that operations may have on the firm. These firms are reactive and when strategic issues involving operations arise, the firm's usually calls in outside experts.

Stage 2 firms are said to be externally neutral, meaning they seek parity with competitors (neutrality) by following standard industry practices. Capital investments

in new equipment and facilities are seen as the most effective means of gaining competitive advantage.

Stage 3 firms are labeled internally supportive, that is, operations' contribution to the firm is dictated by the overall business strategy but operations has no input into the overall strategy. Stage 3 firms do, however, formulate and pursue a formal operations strategy.

Stage 4 firms are at the most progressive stage of operations development. These firms are said to be externally supportive. Stage 4 firms expect operations to make an important contribution to the competitive success of the organization. An operation is actually involved in major marketing and engineering decisions. They give sufficient credibility and influence to operations so that its full potential is realized. Firms within Stage 4 are known for their overall manufacturing capability.

For firms to succeed they need to strive in stage 3 or 4 since they have the bulk of their labor force and assets tied to the operations function. The need for an operations strategy that reflects and supports the corporate strategy is not only crucial for the success of the corporate strategy but also because many decisions are structural in nature. Firms that fail to fully exploit the strategic power of operations will be hampered in their competitive abilities and vulnerable to attack from those competitors who do exploit their operations strategy. To do this effectively, operations must be involved throughout the whole of the corporate strategy. Corporate executives have tended to assume that strategy has only to do with marketing initiatives. They erroneously make the assumption that operation's role is strictly to respond to marketing changes rather than make inputs into them. Secondly, corporate executives assume that operations have the flexibility to respond positively to changing demands. These assumptions place unrealistic demands upon the operations function. A recent article by Lewis (2003) warns firms a practical operations strategy is iterative and will require market compromise. While corporate management perceives corporate improvement as coming through broad decisions concerning new markets, takeovers, and so on, it overlooks the idea that building

blocks of corporate success can be found in the creative and effective use of operations strategy to support the marketing requirement within a well-conceived corporate strategy.

The company's success is due to its ability to create a business plan which provides a clear vision of the future. This is achieved by identifying the company's strengths and weaknesses and by setting realistic goals and objectives. The company's success is also due to its ability to create a business plan which provides a clear vision of the future.

### CONCLUSION

The company's success is due to its ability to create a business plan which provides a clear vision of the future. This is achieved by identifying the company's strengths and weaknesses and by setting realistic goals and objectives. The company's success is also due to its ability to create a business plan which provides a clear vision of the future.

### REFERENCES

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## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 RESEARCH DESIGN**

This was a descriptive study which sought to establish the extent which competitive operations strategies are practiced in interurban Bus industry in Kenya. Also the researcher wanted to establish how these competitive priorities are ranked by the operators.

### **3.2 POPULATION**

The target population of this study comprised of all inter-urban PSV bus firms with their home base of operation situated in Nairobi. This is because most of the long distance buses start their operations here. The researcher targeted 34 interurban bus companies which were registered by Transport Licensing Board (TLB) in August 2006. It was a census study since the number of companies involved in the study was small.

### **3.3 DATA COLLECTION**

The study relied on primary data which was collected by a way of semi- structured questionnaire that had both open ended and closed questions. The questionnaire was divided into two parts. Part I gathered general information on the company profile while part II collected information relating to the study objectives which included competitive priorities in PSV bus industry, which ones are prioritized and the challenges faced in their implementation. Questionnaires were administered through a combination of methods including personal interviews and drop and pick latter method. To ensure high response rate, the researcher used follow up mechanism such as Email and telephone calls. The targeted respondent in the study were Senior Managers and Officers in charge of operations functions in various firms, since they



were in a position of knowing the obstacles faced by their firm's in attempting to implement various competitive priorities in their operations.

### **3.4 DATA ANALYSIS**

The data was first edited for accuracy, consistency, uniformity and completeness. It was analyzed through a combination of both descriptive and inferential statistics. Descriptive statistics were used to determine the profile of the responding bus companies. This involved use of frequency tables, percentages and proportions. To determine the extent which operations strategies are practiced in bus companies, mean scores and standard deviation were be used.

Wilcoxon matched pairs signed ranks test was used to test whether there are any significant differences among the rankings of the various competitive priorities. Nyamwange (2001) also used this approach. In this case pair-wise treatments were conducted. This test uses the signs and ranks of the difference scores to decide whether there is a significant difference between any two priorities. If this is found true, any difference that does exist in the sample data must be due to chance. In this situation positive and negative difference scores would be intermixed throughout the sample. Nyamwange (2001) noted that, a consistent difference between two priorities would be caused by scores in one priority being either higher consistently or lower than other priority.

Kruskall-Wallis Test was used to test the significance of the overall variability between the various operations strategies. This test is applied to data from independent groups and is an alternative to the one way analysis of variance (one way ANOVA) .It is used to compare the scores from more than two treatments or groups. The scores were first ranked without regard for which treatment they came from and tied ranks averaged. Like many non-parametric tests, it uses the ranks of the data rather than their raw values to calculate the statistic. The test statistic for the Kruskal-Wallis test is  $H$  which is compared to a table of critical values for  $U$  based on the sample size of each group. If  $H$  exceeds the critical value for  $H$  at some significance

level (usually 0.05) it means that there is evidence to reject the null hypothesis in favor of the alternative hypothesis. ([www.ac.wvu.edu](http://www.ac.wvu.edu))

**Note:** When sample sizes are small in each group ( $< 10$ ) and the number of groups is less than 4 a tabled value for the Kruskal-Wallis should be compared to the H statistic to determine the significance level. Otherwise, a Chi-square with  $k-1$  (the number of groups-1) degrees of freedom can be used to approximate the significance level for the test. ([www.ac.wvu.edu](http://www.ac.wvu.edu)).

## CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

### 4.0 INTRODUCTION

The study had two objectives of establishing the operations strategies that are pursued by PSV bus operators and challenges facing these firms in implementation of these operations strategies. In achieving these objectives, the study ranked competitive strategies according to their relative importance and also gathered relevant information about challenges. A total of 34 questionnaires were administered to the operations managers or equivalents of each transport firm in the population. Out of these, only 17 questionnaires were returned and successfully filled. The response rate was therefore 50% which compares well with Mwaura (2002) and Nyamwange (2001) with response rate of 52 % and 27 % respectively. Some of the firms feared that this information would be used against them hence declining to fill the questionnaire. Several firms which had been targeted for this study were found to have stopped operations due to high operational costs while others had changed their operation from long distance to city operations. Many operators also complained about the poor infrastructure and tough traffic rules which made it difficult to operated efficiently

Once the data was collected it was edited for accuracy, completeness and consistency. Descriptive and inferential statistics were used to analyze the data. This included the tables and percentages to represent response rate and general information of the firms. Frequency distribution and inferential statistics were used to determine and rank competitive priorities according to their relative importance. The findings of the study are divided into two parts. The first part include the demographics based on network coverage, country of incorporation, type of vehicles used in operations. Part two present findings using contingency tables to determine the relative importance of various competitive priorities and challenges. The response rate was considered sufficient.

#### 4.1: DEMOGRAPHIC INFORMATION

The demographic characteristics considered in these firms' are: Years of operation, country of establishment, bus terminus, competition and networks

**Table3.1: Years of operation**

Year	Frequency	Percentage	Cumm. Percent
1970-1995	5	29.41	29.41
1996-2000	3	17.65	47.06
2001-2006	9	52.94	100.00

*Source: Research data*

Of the firms surveyed it was noted that 9 (52.94%) have been in operation for about 1-6 years, 3 (17.65%) had been in operation for 7-10 years while the rest have been in operation for over 10 years. This shows that there has been a tremendous growth within the last 10 years. The results also indicated that, 14 (82.35%) of these firms were incorporated in Kenya, while 3 (17.65 %) in Kenya, Uganda and Tanzania. Though many bus firms desired to penetrate the global markets, they found it hard due to logistic issues and also the tough operating conditions in these markets. It was also noted that, many bus firms lacked information about these markets since there is no proper research done and also lack of proper documentation on the opportunity in other countries.

Table 3.2 below shows that country bus was the most popular picking point with 6 (30%), followed by River road with 4 (20%) and the rest as indicated. Most bus companies chose country bus terminus as their major picking point because of its proximity, high number of passengers and also the fact that only small fee is paid to city council in order to pick passenger from here. Passengers on the other hand are fond of this stage due to the wide range of bus choices and also have a high bargaining power on fares.

**Table 3.2: Terminus**

<b>Terninus</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Cumm. Percent</b>
Country Bus	6	30	30
Temple Rd	2	10	40
Ronald Ngara	1	5	45
Accra Road	2	10	55
Duruma Road	1	5	60
Railways go down	1	5	65
River Road	4	20	85
Bus Station	1	5	90
Voi Road	1	5	95
Eastleigh	1	5	100

*Source: Research data*

**Table 3.3: Competition**

<b>Competition level</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Cumm. Percent</b>
1	4	23.53	23.53
2	1	5.88	29.41
3	1	5.88	35.29
4	0	0.00	35.29
5	11	64.71	100.00

*Source: Research data*

This section sought to establish the perceived level of competition that bus firms face in their routes of operations.

The findings indicated that, 11 (64.71%) face very stiff competition, 1 (5.88 %) moderate competition while 4 (23.53%) face very low competition. It was noted that buses firms that face very low competition had well established clientele through having well established loading points and facilities, neat and well maintained buses, timeliness and high reliability. They also have lobby places where passengers are able

to relax, get entertainment and customer care desk among others. Amidst competition, they were able to charge higher fares than others operators who are very informal. To smoothen demand, these firms instigated advanced booking system hence their buses usually full. Some operators however felt that there was unfairness in this industry in that some well established firms were not harassed so much by the police and also the Traffic Licensing Board (TLB) officers. Large firms were also noted to benefit from cheap sourcing of supplies through economy of scale and therefore able to be above competition.

Over 65% of these firms operated over 10 buses. They indicated that, this was necessary as away of creating passenger's confidence and also it assisted in improving bus frequency through proper spacing of buses. Loyal customers are therefore able to wait for their bus which is a big advantage. This also worked well incase of any unforeseen circumstances like breakdown. In this event it would be possible to provide customers with an alternative bus and this reduced on customers' waiting time and hence termed as reliable. Many breakdowns arose due to bad roads and this affected timeliness in a big way.

From the table and figure above it is clear that most of the bus companies own more than ten units. This is useful if the bus firm is to make impact on a particular route and cultivates the passengers' confidence.

**Table 3.4: Network coverage- East Africa**

Major Towns	1-2	3-4	Above 4	Total
Kenya	17.65%	47.06%	35.29%	100.00%
Uganda			100.00%	100.00%
Tanzania			100.00%	100.00%

*Source: Research data*

The above table shows the network coverage of the bus companies in East Africa. Those bus companies that cover 1-4 towns in Kenya are about 65% whereas 35% covers over 5 major towns. In Uganda and Tanzania all bus companies cover over 5 major towns.

**Table 3.5: Network coverage by routes**

Province	No.of buses Deployed	Percent	No of routes per day	
			Day	Night
Nyanza	61	23.74%	29	32
Western	52	20.23%	26	26
Nairobi	1	0.39%	0	1
Central	10	3.89%	10	0
North Eastern	0	0.00%	0	0
Eastern	62	24.12%	52	10
Coast	35	13.62%	17	18
Rift Valley	23	8.95%	19	4
Uganda	10	3.89%	0	10
Tanzania	3	1.17%	0	3
Totals	257	100.00%	153	104
		<b>Percent</b>	<b>59.53%</b>	<b>40.47%</b>

*Source: Research data*

From this table it is clear that Eastern and Nyanza routes deployed the greatest number of buses per day at 24.12% and 23.74% respectively. 59.53% of all the buses operated during the day time while 40.47 % at night. It was also evident that not many bus firms have penetrated the global markets with only 3.89 % and 1.17% deployed to Uganda and Tanzania respectively per day. Interurban bus firms therefore need to explore for business opportunities in the global markets as a way of reducing competition and this would help them operate in a more profitable way. Some routes that they were operating were saturated and this meant that the revenues were being diluted.

**Table 3.6: Fleet Model**

Model	Frequency	Percentage	Cumm. Percent
Isuzu	60	21%	21%
Scania	47	16%	38%
Leyland	0	0%	38%
Volvo	0	0%	38%
Mercedes	0	0%	38%
Nissan UD	96	34%	71%
Mitsubishi	62	22%	93%
Tata	0	0%	93%
Others	20	7%	100%
<b>Total</b>	<b>285</b>	<b>100%</b>	

*Source: Research data*

From the above table, it was noted that most bus companies operate Nissan UD and Mitsubishi type of buses. The respondents indicated that, it is economical to maintain one type of fleet. They argued that the cost of maintenance is reduced when the fleet comprises of one model. Similarly, one type of model makes employees to specialize in handling the units. None of the respondent operates Tata, Mercedes, Volvo and Leyland buses.

**Table 3.7: Seating capacity**

Capacity	Isuzu	Scania	Nissan Ud	Mitsubishi	Others
14-30	7%			16%	100%
31-50	60%	68%	28%	84%	
51-70	33%	32%	72%		
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

*Source: Research data*

The seating capacity indicated that, Companies that operate Isuzu, Scania and Mitsubishi major on buses of seating capacity between 31-50 passengers with 60%,



68% and 84% of their fleets respectively whereas the ones using Nissan UD are between 51-70 seating capacity.

It was also noted that, their loading averaged between 51-100%. Seasonality was evident in their mode of operation. April, August and December were termed as their best months whereas February, July and October were the lowest. During the low months some of the bus firms reduced the number of buses operated so as to reduce on operational costs. Other recruited crews on demand basis and paid them on the days worked as opposed to permanent employment.

## **4.2 OPERATIONS STRATEGIES**

Lewis (2003) noted that achievement of world-class status through operations requires that operations be integrated with the other functions at the corporate level. He further argued that, operations play an important role in strengthening the firm's overall strategy hence giving the firm a distinct advantage in the marketplace. It also provides a coordinated support for the essential ways in which the firm's win passenger over their competitors, also known as distinctive competencies. He argued that, though most firms share access to the same processes and technology, so they usually differ little in these areas and what is differentiates them is the degree to which operations matches its processes and infrastructure to its distinctive competencies

### **4.2.1 DO OPERATIONS STRATEGIES ENHANCE COMPETITIVENESS?**

The respondents were asked to pick one of the three choices regarding the role played by operations strategies towards competitiveness, long term business performance and success. It was noted that 100% of the firms surveyed felt that operations strategies which included maintaining quality service, comfort, reliability, dependability, timeliness among others contribute immensely to the firms' performance and its success. This was consistent with Nyamwange (2001) and Richu (2005) findings on operations strategies in manufacturing firms and security firms respectively. Since all the respondents acknowledge the importance of operations strategies to the competitiveness of the firms, it is paramount that firms' support the formulation and implementation of relevant competitive priorities in order to remain competitive. The operations managers should be more involved in coming up with befitting strategies which will lead to success of the firms processes. Nyamwange (2001) noted that, if Kenyan firms are to attain world class status, then they should involve the operations strategies in making decisions affecting operations of the firm.

#### 4.2.2 ARE PRIORITIES RANKED EQUALLY?

Nine operations strategies were addressed by the questionnaire and the respondents were asked to rank them on a five point Likert scale to reflect the importance attached to each operations strategy. These ranks were used to calculate the weighted mean score and standard deviation of responses relating to the operations strategies. Detailed analysis is shown in Table below:

**Table 3.8: Competitive Priorities ranking**

Factors	Priority	Score	Mean scores	Std. Deviation	Rank Order
On time departures and arrivals	<b>Timeliness</b>	80	4.7	0.67	1
Cheap inputs sourcing e.g Fuel/Supplies etc	<b>Cost</b>	68	4.0	1.53	2
Maintenance of breakdown records	<b>Reliability</b>	56	3.5	1.84	3
Customers feedback on service offered	<b>Quality</b>	58	3.4	1.75	4
On gong training on customer care	<b>Customer care</b>	56	3.3	1.74	5
Refresher courses to the crew on standards	<b>Service Quality</b>	50	3.1	1.62	6
Introduction of new unique services	<b>Innovation</b>	45	2.8	1.77	7
Re-routing of buses as per demand	<b>Flexibility</b>	33	1.9	1.59	8
Offering fare incentives	<b>Fares</b>	32	1.9	2.23	9

*Source: Research data*

The priorities were ranked on a scale of 1 to 5, where 5 is the most important and 1 least important. Timeliness was ranked highest as the strategy on which to compete

on in PSV bus firms. This differed with Richu (2005) findings which ranked time as the least important factor in security firms. Timeliness in PSV bus operation was ranked as a very important factor by all with a mean score of 4.7 and standard deviation of 0.67. Other competitive priorities applied by PSV bus operators are also summarized in the table above. The last column shows the position of ranking of each strategy with respect to the others. Fare incentive is ranked lowest among the respondents with a mean score of 1.9 and a standard deviation of 2.23.

Though the table shows that timeliness, cost, reliability and quality are ranked highest respectively, it is worth noting that this is purely mathematical derived from mean rank score of the priorities which is consistent with findings of Richu (2005) and Nyamwange (2001). As a way of testing that PSV bus operators do not consider all competitive priorities as equally enhancing competitiveness and success, non-parametric techniques were used to determine whether the differences in ranking are statistically significant. The Wilcoxon Matched pairs signed rank test was conducted on all the nine priorities at 0.05 degree of confidence. See full details on Appendix 111. As stated earlier, it is fundamental to note that this test finds out whether the observed differences are real or are as a result of error.

The test was done at 95% and if the calculated  $p \leq 0.05$  then it is statistically significant. From Wilcoxon matched pairs signed rank test in Appendix 111 it is clear that the rank order is statistically significant for timeliness and part of the other priorities at the level of 0.05, except cost which is not significantly different from timeliness. Cost is statistically significant to service quality, flexibility and fare incentives. This means that timeliness is prioritized and then the rest are pursued. This is in line with Nyamwange (2001) and Richu (2005) finding. We therefore fail to reject the hypothesis that Interurban bus firms in Kenya do not consider all operations strategies as equally enhancing competitiveness. The results also indicate that timeliness is ranked higher. This is consistent with Richu (2005) which suggest that there is trade offs among priorities pursued by firms given that they do not attach the same importance. This also supports Skinner's school of trade offs theory. The findings are also consistent with Hill (1989) preposition of order winners and

qualifiers. He argued that even though all the priorities may be pursued equally, firms may still emphasize one for competitive advantage. Such a priority that is emphasized is called the current order winner while the others are pursued as order qualifiers. This means that timeliness is the current order winner and should be pursued for firm's success. It is however important to note that firms should not ignore the other competitive priorities. Nyamwange (2001) argues that they still have to meet very high standard of performance on the other dimensions and they excel on the order-winning dimension.

Kruskall –Wallis Tests was performed on the ranking of priorities to test whether there is a significant difference in the rankings at 0.05 level of confidence. The table below summarizes the findings: For detailed analysis see Appendix 111.

**Table 3.9: Kruskall-Wallis Tests**

<b>Test Statistics</b>	
Chi-Square	<b>Scale</b> 32.988
Df	8
Sig.	.000

Kruskal Wallis Test

From the Chi-table of critical values, at 8 degree of freedom the critical chi value is 15.507, this is below the calculated chi value of 32.988. This means that there are significant differences in mean rankings of the operation strategies among different interurban bus firms in Kenya. This is consistent with Nyamwange (2001) findings. It also meant that, these firms pursue similar operations strategies and attach different importance to the competitive priorities. Firms therefore need to pursue right operations strategies in order to gain and maintain competitiveness. This is very critical given that there is free entry in this industry.

**4.2.3 HOW OFTEN COMPETITIVE PRIORITIES ARE EVALUATED?**

The respondents were asked to indicate how often they evaluate the utilization of operations strategy in their firms. 71% of the firms evaluated them on quarterly basis,

6% semi annually whereas 24% indicated that several priorities are evaluated on daily or weekly basis against set key performance indicators. From the observation it is clear that Bus firms value operations strategies and are regularly evaluated with over 90% of the respondent evaluating them between 1-90 days to ensure that they are operational.

#### **4.2.4 MEASUREMENTS OF EFFECTIVENESS OF OPERATIONS STRATEGIES**

The respondents were asked to state some of the indicators they use to measure their performance in various operation strategies. The following were given as a way of measuring the effectiveness of various competitive priorities.

##### **Customer satisfaction**

- 1) Number of passenger's complaints.
- 2) Repeat passengers
- 3) Number of calls from satisfied passengers
- 4) The number of passengers who book buses in advance
- 5) Competitors view about our service

##### **Reliability**

- 1) Number of breakdown
- 2) Number of cases and complaints from traffic officers e.g. .TLB and police.
- 3) No of buses that reach destination in time
- 4) How fast our buses are recovered incase of breakdown
- 5) Proper backup service incase of any unforeseen events.
- 6) Average fleet age
- 7) Comprehensive maintenance schedule

##### **Timeliness**

- 1) Are departures and arrivals time as per schedule
- 2) Controlled stop over through vehicle movement card

- 3) Turn around time especially by engineering department

#### **4.2.5 UTILIZATION OF VARIOUS COMPETITIVE PRIORITIES**

This question sought to understand how competitive priorities are utilized by various bus firms for competitiveness. Below are some of the key issues regarding each priority.

##### **Cost**

- 1) Purchasing quality parts that will give a longer life hence cheaper at long run.
- 2) Bulk buying hence getting quantity discount especially on fuel and PSV maintenance materials through a proper economy of scale.
- 3) Having own servicing staff and hence not exploited
- 4) Have a proper maintenance schedule which ensure that vehicles do not breakdown hence cost saving.
- 5) Proper negotiation skills by having right staff for sourcing of supplies.
- 6) Partnering with suppliers

##### **Quality**

- 1) Have quality control personnel who ensure that before a bus is released to the picking point it meets all the required standards.
- 2) Researching on customers needs so as to anticipate their perceived view of quality
- 3) Quality control checks on cleaning ness, servicing schedule, smartness of the crew etc.
- 4) Continuous training on customer care and defensive driving.

## **Time/Speed**

- 1) Maintain the speed recommended by traffic act regulations.
- 2) Avoid unnecessary stop overs.
- 3) Advice our esteemed passengers on our timings in advance
- 4) Have proper backup services incase of any issues e.g. on route mechanics and also have backup buses at strategic points.
- 5) Doing speed checks on various strategic points

## **Flexibility**

- 1) Rerouting our buses as per the demand
- 2) Not scheduling all buses
- 3) Ability to reduce fares so as to compete with other market players.
- 4) Monitors seasonality and able to adjust our operations accordingly.

## **Innovation**

- 1) Having a budget for research and development programs.
- 2) Emphasize on cultural change by encouraging creativity and rewarding the same.
- 3) Rewarding innovation
- 4) Coming up with totally unique services that cannot be copied by our competitors.

### **4.2.6 MAJOR CHALLENGES IN IMPLEMENTATION OF PRIORITIES**

Most of the bus companies felt that there was lack of proper training which reduced the ability for coming up with proper operations strategies. They also noted that the top management did not communicate properly their expectation, mission and vision of their firms and in this event staff did not know exactly what to implement and what



to hold. These findings were in line with Machuki (2005) and Aaltonen and Ikavalko (2001) findings. Another challenge noted was the resistant to change. Some staff feared that some of these strategies if properly implemented would threaten their livelihood and therefore preferred that things remain at status quo.

The competitive environment was also cited as another major challenge. Some firms chosen a soar throat competition by undercutting on prices and this had lead to unfair competition. The cost of supplies was also noted as a major challenge in implementation of some priorities in that most of them were on an upward trend with very little government intervention hence making the industry to struggle in a big way. These supplies included fuel, PSV maintenance materials and cost of buses.

Office politics and pathetic state of infrastructure were also noted as other challenges. Many firms argued that though they recognize the importance of timeliness in Transport industry it is becoming very difficult with very bad roads. Lack of proper job description and high turnover of employees was noted by some as a major drawback in strategies formulation and implementation since many firms do not keep policy manuals which can act as source of reference while this staffs have left the firm .hence lack of continuity.

#### **4.2.7 WHO IS INVOLVED IN OPERATIONS STRATEGIES IMPLEMENTATION?**

Different views were got on the people involved in implementation of operations strategies. 69% of the respondent felt that shareholders were least involved in formulation and implementation of operations strategies. They only outlined the Vision and the Mission of the Company and left the work of implementation to the senior managers. Other firms hired the services of consultants in implementation of competitive priorities. Senior management should support and communicate the visions and the mission of the firm clearly to all staff in order to ensure smooth implementation of sound operations strategies at all levels.

## **CHAPTER FIVE: SUMMARY OF THE FINDINGS, CONCLUSION & RECOMMENDATIONS**

### **5.1.1 SUMMARY OF FINDINGS**

The objective of the study was to determine the operations strategies pursued by PSV bus companies and establishing the challenges they faced in implementation of these strategies. The data used in this study was from 17 bus firms representing 50%. Non parametric statistics were used in ranking the various operations strategies. The study found out that the competitive priorities on which PSV bus firms compete in their order of rank were: (1) Timeliness, (2) Cost, (3) Reliability, (4) Quality (6) Customer care, (7) Service quality, (8) Flexibility and (9) Fare Incentives. It also collected data on the challenges faced in implementation these strategies. Data on the indicators used by the companies to measure the utilization of these strategies was also collected.

The results were in line with Hill (1989) proposition of order-winners and order qualifiers who argued that, a firm may emphasize on one priority, known as the current order winner and pursue the others as order qualifiers without necessarily neglecting them. In this study, timeliness was pursued as order winner and the rest as order qualifiers.

The study cited lack of proper communication, understanding, resistant to change, escalating operational costs and poor infrastructures as the major challenges facing these firms while formulating and implementing the operations strategies. Most of the firms are informal and this lead to disconnect incase the officers who were handling the process left the firm.

It is worth noting at this point that the success of operations strategies is not just good strategies and statements of intent but how well they are implemented and managed. Some operations managers felt that for this to be a reality there was need for a good

rewarding system , feedback mechanism since passenger expectation are continually kept changing . Others suggested that there was need for policy manuals for both current and future employees .Senior management should be in the front line in communicating and supporting the initiative of implementing these operations strategies through involving all the staff.

### **5.1.2 CONCLUSION**

The finding of this study indicated that timeliness was ranked higher than the other competitive priorities, followed by cost, reliability and quality in that order. This meant that there was trade off between timeliness and other competitive priorities. Richu (2005) however, noted that it is instructive that the other priorities are also pursued equally and hence tradeoffs do not necessarily exist among them in the long run. This proposition is in line with Ferdows and De Meyer (1989) ‘Sand Cone model’ which suggests that, although in the short term it is possible to trade off capabilities one against the other, there is actually a hierarchy amongst the various capabilities. This changes the trade-off relationship into cumulative one where operations strategies are built on one another. The findings suggest that PSV firms should pursue on various competitive priorities in order to be competitive. Senior managers should also support the implementation of befitting operations strategies and communicate the firms’ expectation to all staff so as to remove resistance.

### **5.2. RECOMENDATIONS**

From the result of this study it is evident that competitive priorities play a fundamental role in the competitiveness of PSV bus firms. This is due to the importance attached to the various aspects of the operations strategies. It is therefore important that PSV firms rethink and focus strongly on the way of coming up with sound operations strategies. PSV bus firms should give more support to operations function and let it play a central role in the formulation, implementing and evaluation of the firms’ undertakings. For PSV bus companies to be successful, they must compete on the following: (1) Timeliness, (2) Cost, (3) Reliability, (4) Quality (5)

Customer care, (6) Service quality, (7) Innovation, (8) Flexibility and (9) Fare Incentives. It is also very important that they have supportive systems, change firm's culture and train their employee on the various competitive priorities. They also need to charge all the staff with the responsibility of ensuring right operations strategies are put in place in their respective departments. Management in PSV bus firms need to hire qualified personnel, develop rewarding system for productive operations strategies and give necessary support as the best way of attainment of befitting operation strategies.

Since the service offered by bus firms cannot be retained but its effect can be felt for a very long time even after service, PSV bus firms must maintain a good relationship with passengers because this is one ways of retaining passengers. They also need to have a cordial relationship with suppliers so that, they can lower on costs of procurement and also ensure reliability and speed of delivery. Befitting operational strategies must be well communicated, implemented and managed in order to impact on firms operations.

### **5.3 LIMITATIONS OF THE STUDY**

In the interpretation of the findings of this study, one should bear in mind a number of limitations:

- 1) The findings were based on 17 interurban PSV bus firms. This was due to the fact that some of the firms were unwilling to participate in the study as they feared that this information might be used against them. In some firms also it was very hard to get an appointment with the right persons to fill the questionnaire. Other companies said that it was their company policy not to give any information to outsiders while others kept on postponing the appointment.
- 2) Some respondents filled in the questionnaire but did not give the right information for decision making whereas others totally misunderstood the

questions. However efforts to address this problem were undertaken in this study.

- 3) Several PSV bus firms in the population targeted had changed their operation from interurban operation to city operation.
- 4) Time and resources limited the study. This could have affected the response rate owing to the fact this was a census design.

#### **5.4 SUGGESTIONS FOR FURTHER RESEARCH**

This was an exploratory survey that sought to establish the operations strategies, which interurban PSV bus firms in Kenya compete on. Further research could be done on other operation issues related to the operations strategies to improve on these findings. These may include:

- 1) A research on ways of reducing congestion in Kenyan roads through smooth implementation of sound operations strategies.
- 2) Detailed studies on measuring the performance and evaluation of operations strategies by 'most respected' firms in Kenya.
- 3) A detailed research on how Interurban PSV bus firms are addressing the competitive challenges facing them.
- 4) A replication of this research to other passengers' mode of transportation like 'boda boda' and Taxi/ Cabs.

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[Http://www.ac.wvu.edu/~stephan/Book/chap0/0.Kruskal.html](http://www.ac.wvu.edu/~stephan/Book/chap0/0.Kruskal.html) "Kruskal Wallis "Analysis of Variance "by Ranks"



## APPENDIX 1: QUESTIONNAIRE

I appreciate your participation in this survey study which is conducted by an MBA student from the University of Nairobi. The survey studies the operations strategies pursued in interurban PSV transport services in Kenya. Your answers will be treated in confidence and used strictly for academic purpose only. In no instance will your name or that of your company be divulged.

### Section A: Company Profile

1. Name of Company.....
2. Which is your country of incorporation?.....
3. In which year was your company established in Kenya?.....
4. Which bus terminus represents your home base operations?.....
5. What is your total number of buses in your fleet?.....
6. What is your firm's mission statement?.....
7. What is your firm's vision statement?.....
8. What is the geographical network coverage served by your buses in East Africa?

Country	Number of towns
Kenya	
Uganda	
Tanzania	

9. From Nairobi, what is your geographical network coverage by way of routing from your home base?

Province	No. of buses Deployed	No of routes per day	
		Day	Night
Nyanza			
Western			
Nairobi			
Central			
North Eastern			
Eastern			
Coast			
Rift Valley			
Uganda			
Tanzania			

10. What type of buses do you currently use in your operation?

Model	No of fleet	Seating Capacity
Isuzu		
Scania		
Leyland		
Volvo		
Mercedes		
Nissan UD		
Mitsubishi		
Tata		
Others		

11. What is your average passenger load on the following routes in terms of bus full capacity? (Please tick as appropriate.)

Province	Range			
	0-25%	26-50%	51-75%	76-100%
Nyanza				
Western				
Nairobi				
Central				
North Eastern				
Eastern				
Coast				
Rift Valley				
Uganda				
Tanzania				

12. On scale of 1 (no competition at all) >2>3>4>5 (very high competition) how would you generally describe the level of competition faced by your buses in your region of operation? (Please circle as appropriate)

**Competition level**

**Very low**  **Very High**

1            2            3            4            5

**SECTION B: OPERATIONS STRATEGIES**

1. Does your company consider safety, reliability, comfort, timeliness, new routes development, customer satisfaction, fare reduction and competitive sourcing as enhancing competitiveness and long term business performance and success?

Yes       Not sure       No

2. On a scale of 1 to 5 (where 5 is the most important and 1 least important) please indicate the importance of the following as viewed by your company.

Factors	Level of Importance				
	1	2	3	4	5
On time departures and arrivals					
Cheap inputs sourcing e.g Fuel/Supplies etc					
Maintenance of breakdown records					
Customers feedback on service offered					
On gong training on customer care					
Refresher courses to the crew on standards					
Introduction of new unique services					
Re-routing of buses as per demand					
Offering fare incentives					

3. How often do you evaluate the utilization of the above ways of competing (in question 2) in your company? Please tick one.

Quarterly                       Semi –annually

Annually                       other (please specify)

4. Firms must ensure that their performance is improved continually. This will be possible only if they measure their performance against set standards. In line with this, please indicate briefly how you measure the effectiveness of the various objectives below.

Customer satisfaction

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Reliability

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---

Timeliness

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Customer Value for money

---

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Others (please specify)

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5. Industrial competition is currently so stiff both in local and International market. In line with this firms have adopted various objectives such as low cost, quality, service quality, speed, flexibility and innovation among others. (Please indicate briefly how your firm utilizes each of the following objectives.)

**Cost**

---

---

**Quality**

---

---

**Service quality**

---

---

**Flexibility**

---

---

**Time/Speed**

---

---

**Innovation**

---

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**Others (please specify)**

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6. Customer needs and expectations are continually changing hence requiring firms to adjust their operations in line with current market trends. In this context what are the major challenges you have faced in implementing the various competitive priorities.

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7. To what extent are the following involved in formulation and implementation of the various competitive strategies in your firm?

	Least Extent	Great Extent
Shareholders		
Executive Board		
Senior Managers		
Consultants		
Others		

8. Please add here below any information that you may deem to be relevant to this research.

*Thank you for your co-operation*

## APPENDIX 11: LIST OF INTER URBAN BUS COMPANIES

1. Buscar (K) ltd
2. Coast Bus Co. Ltd
3. Dolphin Coaches Ltd
4. Easy Coach Limited
5. Falcon Coaches
6. Gateway Bus services
7. Joy City Croser
8. Kensilver Express
9. Mash Bus services
10. Mololine Services
11. Nairobi Naivasha United services
12. Mwingi Coach Services
13. Otange Air Class
14. Palm dam services
15. Secret Admirer Safari
16. Sabco Ltd
17. Sun City



## APPENDIX 111: NON PARAMETRIC TESTS

### 1) Kruskal-Wallis Test

Ranks

Variables	N	Mean Rank
Scale Timelines	17	109.38
Cost	17	93.50
Quality	17	80.09
Customer care	17	78.68
Reliability	16	83.25
Service quality	16	72.13
Innovation	16	66.50
Flexibility	17	48.21
Fare incentives	17	47.50
Total	150	

Test Statistics<sup>a, b</sup>

	Scale
Chi-Square	32.988
df	8
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable: Variables

## 2) Wilcoxon Signed Ranks Tests

Test Statistics<sup>a</sup>

	Cost - Timeliness	Quality - Timeliness	Customer care - Timeliness	Reliability - Timeliness	Service quality - Timeliness	Innovation - Timeliness	Flexibility - Timeliness	Fare Incentives - Timeliness
Z	-1.416 <sup>a</sup>	-2.161 <sup>a</sup>	-2.347 <sup>a</sup>	-2.388 <sup>a</sup>	-2.719 <sup>a</sup>	-2.971 <sup>a</sup>	-3.442 <sup>a</sup>	-3.439 <sup>a</sup>
Asymp. Sig. (2-tailed)	.157	.031	.019	.017	.007	.003	.001	.001

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Test Statistics<sup>b</sup>

	Quality - Cost	Customer care - Cost	Reliability - Cost	Service quality - Cost	Innovation - Cost	Flexibility - Cost	Fare Incentives - Cost
Z	-1.473 <sup>a</sup>	-1.841 <sup>a</sup>	-.770 <sup>a</sup>	-2.588 <sup>a</sup>	-1.576 <sup>a</sup>	-2.429 <sup>a</sup>	-2.688 <sup>a</sup>
Asymp. Sig. (2-tailed)	.141	.066	.441	.010	.115	.015	.007

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Test Statistics<sup>c</sup>

	Customer care - Quality	Reliability - Quality	Service quality - Quality	Innovation - Quality	Flexibility - Quality	Fare Incentives - Quality
Z	-1.414 <sup>a</sup>	-.042 <sup>b</sup>	-.183 <sup>a</sup>	-.653 <sup>a</sup>	-1.956 <sup>a</sup>	-2.112 <sup>a</sup>
Asymp. Sig. (2-tailed)	.157	.967	.855	.514	.051	.035

a. Based on positive ranks.

b. Based on negative ranks.

c. Wilcoxon Signed Ranks Test

Test Statistics<sup>c</sup>

	Reliability - Customer care	Service quality - Customer care	Innovation - Customer care	Flexibility - Customer care	Fare Incentives - Customer care
Z	-.111 <sup>a</sup>	-.184 <sup>a</sup>	-.574 <sup>b</sup>	-1.803 <sup>b</sup>	-2.034 <sup>b</sup>
Asymp. Sig. (2-tailed)	.912	.854	.566	.071	.042

a. Based on negative ranks.

b. Based on positive ranks.

c. Wilcoxon Signed Ranks Test

**Test Statistics<sup>b</sup>**

	Service quality - Reliability	Innovation - Reliability	Flexibility - Reliability	Fare Incentives - Reliability
Z	-.515 <sup>a</sup>	-2.070 <sup>a</sup>	-2.433 <sup>a</sup>	-2.542 <sup>a</sup>
Asymp. Sig. (2-tailed)	.607	.038	.015	.011

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

**Test Statistics<sup>b</sup>**

	Innovation - Service quality	Flexibility - Service quality	Fare Incentives - Service quality
Z	-.550 <sup>a</sup>	-1.130 <sup>a</sup>	-1.419 <sup>a</sup>
Asymp. Sig. (2-tailed)	.582	.258	.156

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

**Test Statistics<sup>b</sup>**

	Flexibility - Innovation	Fare Incentives - Innovation
Z	-1.880 <sup>a</sup>	-1.924 <sup>a</sup>
Asymp. Sig. (2-tailed)	.060	.054

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

**Test Statistics<sup>b</sup>**

	Fare Incentives - Flexibility
Z	.000 <sup>a</sup>
Asymp. Sig. (2-tailed)	1.000

a. The sum of negative ranks equals the sum of positive ranks.

b. Wilcoxon Signed Ranks Test

