QUEUING MANAGEMENT PRACTICES AND CUSTOMER SATISFACTION AMONG MOBILE PHONE CUSTOMER CARE CENTERS IN NAIROBI

ANN NYAGUTHII MAINA

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

NOVEMBER 2013

DECLARATION

I the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the University of Nairobi for academic credit.

Signed…………………………. Date………………………..

ANN NYAGUTHII MAINA

REG: D61/60077/2011

Approval

This project has been presented for examination with my approval as the appointed supervisor.

Signed………………………….. Date………………

ERNEST O. AKELO

Senior Lecturer, School of Business, University of Nairobi

DEDICATION

To God, for His continued and amazing spiritual support.

To my parents: David Maina and Esther Waihuini and my siblings Elijah Mbogo, Dedan Kago and James Mwangi for believing in me and for your encouragement and support.

ACKNOWLEDGEMENT

ABSTRACT

The aim of this study was to determine the relationship between queuing management practices and customer satisfaction at the customer care centers for the mobile phone providers in Nairobi, and to establish the principles used to manage queues in these customer care centers. In order to satisfy the objectives, a survey was conducted in all the four mobile service providers in Nairobi. The research instrument used was Stata and descriptive statistics was used by way of percentages and frequency distributions to analyze data. The findings revealed that some mobile phone providers have implemented queuing management practices. However it was evident that others have not paid much attention to the queue management practices. It was also established that the major challenges to implementing these queue management practices were lack of knowledge and rigidity from prestige customers. The results indicated that the principles mostly used to manage queues in all the mobile service providers were floor management and the use of mobile staff. The study therefore recommends that all mobile service providers in Nairobi should endeavor to fully understand the queue management practices to be able to drive them to a more competitive edge. They should also ensure to be consistent to use the principles that will not only reduce the customers wait time but also increase the customer's level of satisfaction.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

ATMs	Automated Teller Machines
CBD	Central Business District
CCK	Communications Commission of Kenya
GP's	General Public
GSM	Global System for Mobile
LCD	Liquid Crystal Display
LIFO	Last In First Out
LTD	Limited
SMS	Short Messaging Services
SWOT	Strength Weakness Opportunity and Threats

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Every organization which directly interacts with its customers confronts the issue of queues. Whether we are in line at the grocery store checkout, the barbershop, in a bank, hospital or in the supermarket, waiting our turn is part of our everyday life. In a traditional non-queuing environment, customers can be left confused as to what line to stand in or what counter to go to when called and distracted by noisy crowded environment (Yechiali, 1995). In situations where facilities are limited and cannot satisfy the demand made upon them, bottlenecks occur which manifest as queue but customers are not interested in waiting in queues (Kelly, 2001). When customers wait in a queue, there is the danger that waiting time will become excessive leading to the loss of some customers to competitors (Kotler, 1999). But allowing them to serve themselves so easily is a key factor in both keeping and attracting customers (Michael, 2001).

Operations management is the management of systems or processes that create goods and /or provide services. Operations Management is the business function responsible for planning, coordinating and controlling the resources needed to produce products and services (William, 2009). Services are activities that provide some combination of time, location, form and psychological value. The essence of the operations function is to add value; the greater the value added the more effectiveness of these operations. Understanding the nature of queues and learning how to manage them is one of the most important areas in operations management. Queuing is a practical operations management technique that is commonly used to determine staffing, scheduling and inventory levels, and to improve customer satisfaction.

1.1.1 Queuing Theory and Practices

Queuing systems or waiting lines exist throughout society and their adequacy has strong effect on quality of service and productivity. Queuing theory is concerned with mathematical study of queues or (waiting lines), formulating mathematical models of queues and measuring performance using these models. Queues ordinarily form

whenever the current demand for a service exceeds the current capacity to provide that service. Because of difficulty in accurately predicting arrival pattern of customers for service and/or how much time is required to provide service to each customer, accurate decision regarding the capacity to be provided is made quite difficult. Excess service capacity involves excessive costs due to under utilization and insufficient capacity to meet peak loads, causes queues to become excessively long and customers may even quit the waiting lines. The ultimate goal is to achieve an economic balance between the cost of service (i.e. cost of idle facility and employee) and costs associated with waiting for the service (i.e. social cost and cost of lost customers). Queuing theory does not directly solve this problem, but tries to provide vital information required for taking decisions.

Queue management practices are measures that are put in place to ensure effectiveness and efficiency of services. Some of these practices are; management of customers flow to reduce actual wait time. This can be achieved by setting station lights to point customers to open counters, audio cues to call customers to the right service points. Single line queuing also inherently reduces the average waiting times. Assessing the psychological impact of queuing to reduce perceived wait time is another practice. This can be done by implementing distractions for example LCD screens to show promotions, reading materials and display of merchandise. Thirdly, generating metrics for improving productivity. This involves proactive monitoring of the queue. e.g. service time monitoring and real time queue- analysts.

1.1.2 Customer Service and Satisfaction

Turban et al. (2002) refer customer service as a chain of activities intended to boost the level of customer satisfaction. The importance of customer service varies by products, industry and customer; defective or broken merchandise can be exchanged, often only with a receipt and within a specified time frame. Retail stores often have a desk or counter devoted to dealing with returns, exchanges and complaints, or will perform related functions at the point of sale; the perceived success of such interactions being dependent on employees "who can adjust themselves to the personality of the guest.

Some goals of customer service is to win new clients, exercise customer retention, entice

former clients back into the fold, and reduce the costs of marketing and to serve as many customers as possible. Customer service effectiveness is the relationship between customer service performance and market response which is measured with indicators like performance levels, attributed importance ratings, customer satisfaction and attitude, repurchase intention, increase in market share and turnover or margin (Maltz & Maltz, 1998).

For many customers, queuing for service is a negative experience (Scotland, 1991). Thus the speed of service is increasingly becoming a very important attribute (Kart, Larson & Larson 1991). Some people hate queuing so much that they would rather hire other people to wait for them (Geist, 1984). For these reasons, the operations managers are continuously seeking ways to speed up services, believing that waiting will affect service evaluations negatively. Good service generates greater use from limitless pool of latent demand. Satisfaction itself is adoptive in the sense a good service overstretched can cause drop in satisfaction. Poor service retains some customers who are: persistent, rarely satisfied, and have low expectations. But the rating further decreases as service improve because of attracting more customers who are more critical and knowledgeable and want even higher level of service.

Customer satisfaction should be number one priority in retail services. Though measuring is difficult, customer satisfaction can be defined in simple terms as perception minus expectation. Both expectation and perception of customer play crucial role in customer satisfaction. The expectations are often derived from personal experience. Perceived usefulness of service mainly measures the system's impact on individual's effectiveness, but it is not the only measure. It is often said in case of service organizations that the perceived quality of service is realized at the moment of truth i.e., when the service delivery personnel and customer come in contact for delivery and receipt of service and thus emphasizing the importance of customer participation in service delivery process. In other words, customer-service provider interaction plays vital role in determining the level of customer satisfaction. Customer satisfaction has a linear relation with loyalty and

repeat use/purchase. We need to note the multiplying effects of happy and unhappy customers. Often, a satisfied customer is the best advertisement for service organizations.

1.1.3 Mobile Service Provision

Mobile phones have become the primary form of telecommunication in both developed and developing countries. The first billion mobile phones took around 20 years to sell worldwide. Coverage has expanded and mobile phone subscriptions in developing countries have increased by over 500% since 2000 (Wireless Intelligence 2007). The cell phones can be the primary source to access information as Kennedy (2008) states. Demand for cell phone in rural Kenya has exceeded expectations and as the urban market becomes flooded, the rural costumers become the new target group indicates Fahamu (2007). It is estimated from Shah (2007) that every month 100 000 new subscribers enters the cell phone market in Kenya. The cell phones can be the primary source to access information as Kennedy (2008) states. Demand for cell phone in rural Kenya has exceeded expectations and as the urban market becomes flooded, the rural costumers become the new target group indicates Fahamu (2007). It is estimated from Shah (2007) that every month 100 000 new subscribers enters the cell phone market in Kenya.

Safaricom, Ltd is a leading mobile network operator in Kenya. It was formed in 1997 as a fully owned subsidiary of Telkom Kenya. In May 2000, Vodafone group Plc of the United Kingdom acquired a 40% stake and management responsibility for the company. As of December 2012, Safaricom subscriber base was approximately 19.8 million. Its main services and products include: Voice calling services, message services, mobile banking services, internet services among others (www.safaricom.co.ke). Its main rival is Airtel Kenya. Other rivals include Essar's YU and Orange Wireless (CCK, 2012).

Airtel Kenya ltd was launched in Kenya in 2000 as Kencell and rebranded to Zain in 2008 and finally Airtel in 2010. The company boasts of being Kenya's most innovative mobile phone operator. The company offers a host of services which include; Airtel Money, prepaid &postpaid plans, network connectivity, international roaming, and SMS

4

internet access (www.airtel.co.ke). Airtel Kenya has seen itself grow tremendously from network connectivity and quality of services despite continuous rebranding. 2012. (CCK, 2012)

Telkom Kenya was established as a telecommunications operator under the Companies Act in April 1999. The company provides integrated communications solutions in Kenya with the widest range of voice and data services, fixed lines, mobile technology and internet facilities for residential and business customers (Kiberen and Musiega and Juma, 2013). Telkom Kenya's partnership with France Telecom Group saw the launch of the Orange brand in Kenya in 2008. Orange Telkom had a subscriber base of over 3.2 million subscribers by December 2012 according to the (CCK, 2012) quarterly report.

Essar Telecom Kenya is Kenya's fourth mobile cellular network under the brand "Yu Mobile'', launched in December, 2008. Yu Mobile grew its network coverage in Kenya fast and boasts of this achievement within 10 months from the date of its launch. The network had a subscriber base of over 2.4 million by December 2012 (CCK, 2012) .Yu Mobile offers several innovative products and service offerings all target easier and more convenient. The services include; Yu cash, internet services, SMS services, and voice call services among others (www.yu.co.ke).

1.1.4 Customer Care Centers

Many telecommunication organizations have embraced relationship marketing with its focus on maximizing customer lifetime value. In order to gain more profit share and to be distinctive in the market place the service providers are taking different initiatives and customer care center is one of the common and important initiative. And in the Customer care center customer service has become an important component in this process. Hence, managers are keenly interested in the effect of service changes on customer experience and satisfaction. If customer's experiences are not satisfactory, the relationship is likely to be very short. Customer service is shaping in different ways in order to provide a better service experience to the customer. Everybody has been offering gratuitous and blindly obvious advice on how to improve the customer experience for years (Gilmore, 2001).

As the environment of Businesses is getting stiff day by day, companies are paying more concentration on the customers. And to be more responsive to the customers, companies have come out with the idea called "Customer Service" which has become the strength for some of the companies. By the term Customer Care Center, it means the point of contact for the customers of a particular company. Generally in Customer Care connects customers with the right individual who responds to the various problems that the customer is facing and also provide various information and help along with possible solution to the problems. Moreover successful companies pay more concentration on the Customer Care Center for the purpose of providing a better service experience to its consumer (Bitner, & Zeithaml, 2003).

1.2 Research Problem

Queues occur both in everyday life and in business situations. Queues occur because facilities are unable to meet the demand for the service which they have been set up to provide. In other words, the facilities lack the capacity to deal with all the demand which is put on them. Queues occur in GPs′ health centers; at box offices in theatres; at traffic lights; at restaurants; and on airport runways. Indeed, the range and diversity of queues are quite considerable (Proctor, 1994).

Management science has evolved techniques to help to deal with the problems created by queues. Essentially, these methods aim to help to minimize the disturbance created by queues. Assuming that it is possible to know in advance all the demands which will be placed upon a service facility, the scheduling of the service facility in an efficient manner is a relatively simple matter. Unfortunately, it is difficult to predict accurately when demand will be placed on a facility and how much time will be required to provide the needed service (Shioyama, 1991).

The usual purpose of applying queuing theory models or techniques is to facilitate the identification of an adequate but not too liberal service facility. If the service provision is too generous then the service facility will often be idle and incur unnecessary costs – e.g. idle employees. On the other hand, where excessive waiting time exists because the

facility is inadequate, customer dissatisfaction can occur and a loss of important goodwill ensue ((Proctor, 1994). Customers may not join a queue which is too long and even not consider using such a facility at a later date. Therefore the queues need to be managed to bring about equilibrium to both the firm production costs and the customers satisfaction.

Karen and Blaire (1989) conducted a study at a branch office of the bank of Boston. They found out that increased distractions make the waiting experience more interesting and tend to increase customer satisfaction. Also that expected time in queue tend to make perceptions of waiting length more accurate but does not affect customer satisfaction. The study also proved as perception of waiting time increased, customer satisfaction tend to decrease. Gail and Scott (1995) did a study at a supermarket and found that customer satisfaction/dissatisfaction is dependent not only on the perceived waiting time, but also on the customer identification of the causes, as well as the stability and control of the causes.

Maina (2010) found that customer satisfaction at Safaricom was rated good but not excellent and revealed fairly inefficient customer service as the most likely cause for dissatisfaction. On her SWOT analysis of Safaricom, one of the weaknesses noted were the very long queues at the customer service offices leading to relatively low levels of customer satisfaction. Davis and Heineke (1994) identified several factors which can affect a customer's perception on waiting and consequently his or her satisfaction with the wait and suggested tactics for managing queues for each category of factors. Some of these factors were, unfair versus fair waits, uncomfortable versus comfortable waits, unexplained versus explained waits, unknown versus known waits, and initial versus subsequent waits. Burns and Neisner (2006) found out that retailers whose customers possess high expectations will need to place explicit attention on their customer's emotions. If a performance is deemed as negative, not only will the negative performance affect level of satisfaction, but also the negative emotions associated with the poor performance will also likely affect level of satisfaction.

Despite the availability of the social media channels which has become a major customer service channel and the availability of the call center and email options, many customers

still prefer to use the retail services resulting in long queues. This study seeks to answer the questions on whether queuing Practices can lead to improvement in customer service delivery at the customer care centers for the mobile phone service providers in Kenya.

1.3 Research Objectives

The objectives of this study are;

i. To establish the principles used to manage queues in customer care centers for mobile phone providers

ii. To determine the relationship between queuing management practices and customer satisfaction at the customer care centers for the mobile phone providers in Nairobi.

1.4 Value of the Study

Retail agents are the companies contact points and they actually represent the company in general. Customers will rate the overall performance of the company depending on the kind of service that they receive from the agents. Performance in terms of speed of service, accuracy, courtesy and wait time.

The study will therefore help managers in various organizations understand how they can manage queues to improve service quality and customer satisfaction, hence increasing growth of the organization. The study will also highlight what is expected of the company to succeed in use of queuing as an operation management technique.

The study will be quite enriching to researchers, academic institutions and scholars. This is because it will add to their knowledge and enable them to be more informed when considering the impacts of queuing to an organization.

The study will also be helpful to the customers as reduced waiting time will transform to a more pleasant experience at the retail outlets. The study will also be helpful to the mobile service providers and other players in the Telecommunications Industry in improving customer service.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of some of the related literature published on the queuing system. The purpose of this article is to give the reader a general background into queuing theory and queuing systems, its associated terminology, and how queuing theory relates to customer satisfaction.

2.2 Basic Concepts of Queuing Theory and Practices

A queue is a waiting line, whether of people, signals or things (Ashley, 2000). Queuing occur when demand exceeding the capacity of the delivery system (Houston, Bettencourt, Wenger 1998). Queuing theory is the formal study of waiting in line and is an entire discipline within the field of operations management.

Input source (or source of arrivals or calling population) refers to the population from which arrivals to, waiting line come from. Size of input source is the total number of distinct potential customers. It could be finite or infinite. Queue is characterized by the maximum permissible number of customers that it can contain. This also could be finite or infinite. In most of the practical situations, it is finite. Queue discipline refers to the order in which members of the queue are selected for service. The order is usually first-cum-first-served. However, priority-discipline models give priority to rush jobs and important customers over others and follow random selection, priority selection or last in first out (LIFO).

The service mechanism consists of one or more service facilities, each of which contains one or more parallel service channels or stations called Servers. Service Time (or holding time) is the time elapsed from the commencement of service to its completion for a customer at a service facility. Interval time is the time between consecutive arrivals of customers to the queue. State of system is number of customers in queuing system and queue length refers to number of customers waiting for service. In other words, state of the system minus number of customers being served will give queue length.

The transient condition of the system refers to initial stage when the operation begins. The steady state condition is that condition when system becomes essentially independent of the initial state after lapse of some time. The state dependent service rate and/or arrival rate assumes that the (mean) service rate is always a constant. But it may not be true in practice. Servers tend to work faster than they do when the backlog is small or nonexistent. The increased service rate may be due to compromise in quality or external assistance for certain phases of service.

The physical structure of waiting lines consists of: One or more input sources with arrival distribution, none, one or more queue, one or more servers operating in series or parallel, service discipline and maximum number of customers allowed . The controllable aspects of queuing systems are: Arrival rate, number of servers, service time, maximum length of waiting line and queue discipline or priority rules.

Important Assumptions of a queuing model are firstly each source has a well-defined arrival pattern over time, i.e. inter-arrival or interval times are constant or randomly spaced over time with a known inter-arrival time probability distribution (poison distribution). Secondly the service times at each channel (server) may be constant or random with a known service distribution (negative exponential distribution). Thirdly the potential arrivals may balk if the length of waiting line becomes excessive and decide not to join or arrivals may join the waiting line and subsequently renege, i.e. become impatient and leave before being served. They are lost by the service system. Fourthly in a steady state, the average rate of departure is equal to average rate of arrivals.

2.2.1 A Simple Queuing (Waiting Line) Model

The simplest waiting line model assumes that arrivals join a queue that is of unlimited size, waiting in line until their turn for service comes on a first-cum-first-serve basis and then enter a service facility consisting of a single channel. If, W = Average time spent in queue (i.e., sum of the expected waiting time and expected service time) λ = Average rate of units passing through the system per unit time L = Average number of units in the system

Then, L= λ W

If μ = Average service rate

1/ λ = Expected inter arrival time

1/μ = Expected service time

Further, the utilization factor, ρ (i.e. the expected fraction of time the server is busy is given by

ρ = λ / sμ. Where (s μ) is the fraction of the system's service capacity that is being utilized on the average by arriving customers Cλ). The root of the queuing theory is to 'achieve a tradeoff between excessive waiting by customers (i.e., too much demand) and cost due to excessive idle time at the service facility (i.e. too little demand). Other models are as shown in the figures below.

Single server- Single Queue model
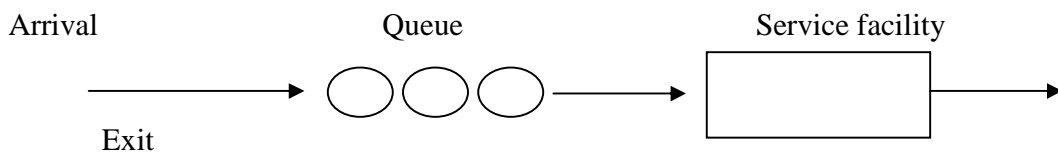
Figure 2.1: Single Server- Single Queue Model
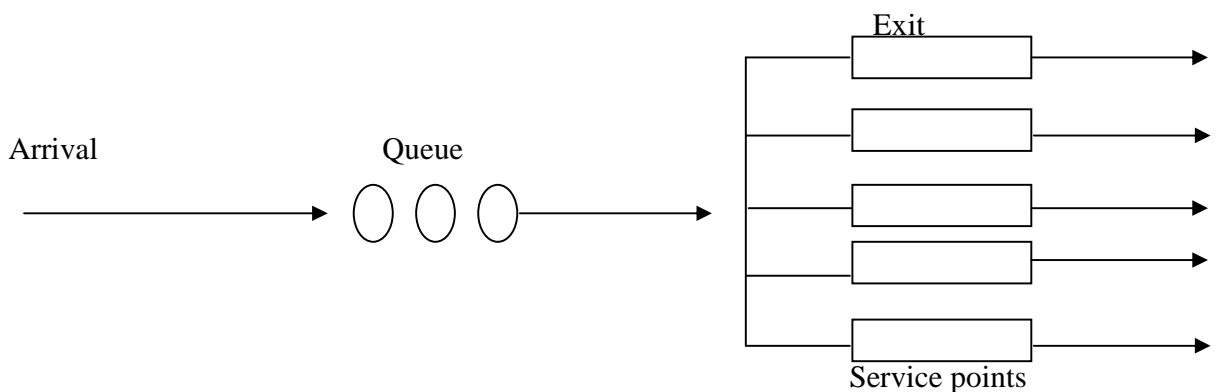
Figure 2.2: Single Queue- Parallel Server Single Queue Model
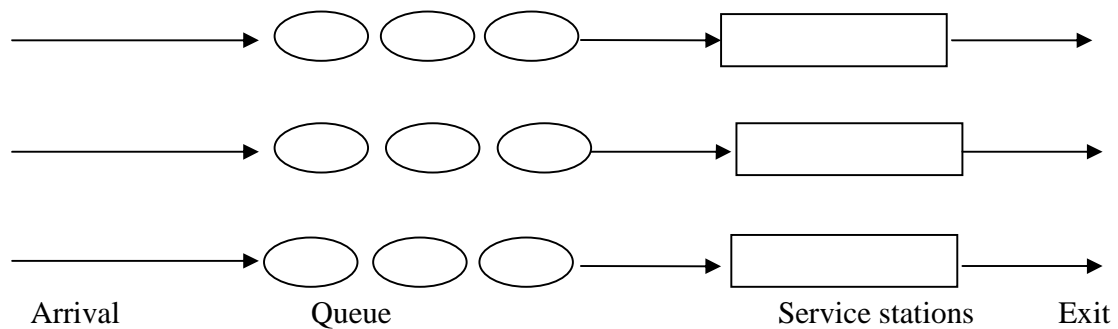
Figure 2.3: Multiple Queues-Parallel Servers

2.2.2 Queuing Management Practices

Queue management practices are measures that are put in place to ensure effectiveness and efficiency of services. Service environments deal with customers queues on a daily basis. Customers arrive to avail different types of services, so management should works to ensure that customers' time is pleasing and hassle free. These practices are categorized into three major groups, (Kuklin, 2013). Firstly practices that manage of customers flow to reduce actual wait time. This can be achieved by setting station lights to point customers to open counters, audio cues to call customers to the right service points. Single line queuing also inherently reduces the average waiting times. Secondly, assessing the psychological impact of queuing to reduce perceived wait time is another practice. This can be done by implementing distractions for example LCD screens to show promotions, reading materials and display of merchandise. Thirdly, generating metrics for improving productivity. This involves proactive monitoring of the queue for example, service time monitoring and real time queue- analysts.

2.2.3 The Service System

The service system is characterized by the number of waiting lines, the number of servers, the arrangement of the servers, the arrival and service patterns, and the service priority rules.

Waiting line systems can have single or multiple lines. Customers wait in line until an agent is free and then proceed to that agent's position. The advantage of using a single line when multiple servers are available is the customer's perception of fairness in terms of equitable waits. That is, the customer is not penalized by picking the slow line but is served in a true first-come, first-served fashion. The single-line approach eliminates jockeying behavior. Finally, a single-line, multiple-server system has better performance in terms of waiting times than the same system with a line for each server. The multiple-line configuration is appropriate when servers specialized are used or when space considerations make a single line inconvenient. For example, in a grocery store some registers are express lanes for customers with a small number of items. Using express lines reduces the waiting time for customers making smaller purchases.

System serving capacity is a function of the number of service facilities and server proficiency. In waiting line systems, the terms server and channel are used interchangeably. It is assumed that a server or channel can serve one customer at a time. Waiting line systems are either single server (single channel) or multi server (multichannel).

Services require a single activity or a series of activities and are identified by the term phase. In a single-phase system, the service is completed all at once, such as with a bank transaction or a grocery store checkout. In a multiphase system, the service is completed in a series of steps, such as at a fast-food restaurant with ordering, pay, and pick-up windows or in many manufacturing processes. In addition, some waiting line systems have a finite size of the waiting line. Sometimes this happens in multiphase systems. Finite size limitations can occur in single-phase systems and can be associated either with the physical system (for example, a call center has only a finite number of incoming phone lines) or with customer behavior (if a customer arrives when a certain number of people are already waiting, the customer chooses to not join the line)

Modes of arrival at a service station can be bulk, arrival as a group, single arrival, independent or conditional arrival. If the state of the system or the sequence receiving arrivals does not affect subsequent arrivals, then the arrivals are independent, otherwise conditional. Timing of arrival can be uniform or random.

Queuing discipline is the order in which customers are picked to receive service (David, 2005). First come first serve, order of service is order of arrival. Last come first serve, customers are served in the reverse order of arrival. Service in random order, selection is in a way that every customer in the queue is equally likely to be selected for the service. Hence the time of arrival is of no consequence in this selection. Priority service, this is when customers may be selected for services according to some identifiable character e.g. emergency places.

The queue discipline can include balking (customers deciding not to join the queue if it is too long), reneging (customers leave the queue if they have waited too long for service), jockeying (customers switch between queues if they think they will get served faster by so doing). (David 2005). There are two possible outcomes after a customer is served. The customer is either satisfied or not satisfied and requires re-service.

2.2.4 The Psychology of Waiting

There are a couple basic psychological aspects of customers in waiting lines have to be understood by a service organization, (William 2009). Firstly, unoccupied time of the customer in the waiting line is always felt longer than the waiting lines and customer satisfaction occupied time. If a customer in service waiting line is engaged with some activity either by himself or by service personnel he will not feel waiting as longer. One of the funny but practical suggestions is to provide for a big mirror where people have to wait in standing for longer. This is nothing but the subjective element of the customer as they are not occupied by any activity in the line.

Secondly, preprocess waits of the customer is always felt as longer by customer than in-process waits. Obviously the customer does not take cognizance of longer time involved

in the service delivery process as long as he is actively participating in the process. Any anxiety on the part of the customer make him to feel waiting time as subjectively longer. Fourthly, it is very crucial from the angle of a customer in the waiting line that he should be given to understand how long he has to wait to get his turn and receive the service. In other words, uncertain waits appear longer to customers than known and finite waits.

Further, any open explanation about why one has to wait so long always relieves commotion in the mind of customer. Hence, unexplained waits appear longer than the explained waits. Sixthly, customers obviously expect either equitable treatment or a special favorable treatment from service personnel. Hence, any unfair waits appear longer to them than equitable waits. Any by-passing of a customer in the waiting line causes dissatisfaction. It has been established through research that the perceived equality of customers in a Service Centre has an important positive effect on customer satisfaction of the service. Seventhly, the more valuable the service, the longer the customer is willing to wait. Lastly, customers having solo waits feel it longer than those waiting in groups. It is always better to allow customers in groups for waiting. All the above psychological aspects of waiting lines have some lessons for service managers who have to design service counters and operate them with customers in waiting lines.

2.3 Customer Satisfaction

Customer satisfaction can be defined in various ways. According to Kotler (1996), satisfaction is the level of a person's felt state resulting from comparing a product's perceived performance (or outcome) in relation to the person's expectations. As cited by (Stahl, 1999) satisfaction level simply is a function of the difference between perceived performance and expectations. Unlike the quality of goods, which may be tangible and measured objectively by using indicators such as performance, features, reliability etc., service quality, however, is not tangible and is thus defined in terms of attitude, interaction, and perception. Thus, service quality is judged by what a customer perceives rather than what a provider offers. For decades, customer satisfaction is considered to be the key success factors for every profit-oriented organization as it affects companies' market share and customer retention. In addition, satisfied customers tend to be less influenced by competitors, less price sensitive, and stay loyal longer (Dimitriades, 2006).

Customer satisfaction is a measure of how your organization's total product performs in relation to a set of customers' requirements, (Nigel & Jim, 2000). Satisfaction is primarily an emotional customer-centered personal response/ reaction (Sridhar, 2001). As a state experienced inside customer mind; it involves both intellectual and emotional responses. Customer satisfaction (including expectation and perception of customer) depend more on customer and his style (his overall post purchase evaluation) than technology or system. The customer in turn depend on his perception, recent performance and first impression.

Customer participation in service production and delivery process is a crucial element of service management and high customer contact systems have to very carefully look into theory and psychology of waiting lines to take advantage of customer participation and to avoid negative effects of delays and other psychological factors on service quality and customer satisfaction (Sridhar, 1998).

2.4 Relating Customer Satisfaction and Waiting Time

In 1985, Maister developed a framework for focusing on customer satisfaction with waiting. This effort, although highly qualitative and subjective in nature, nevertheless did identify many of those factors which can affect customer satisfaction with waiting. In his article, Maister describes the relationship between customer satisfaction, customer perception and customer expectation as satisfaction is perception minus expectation. Perception, in turn, is dependent on both the customer's interpretation of the service encounter and the actual service performance. That means that satisfaction can also be referred to as interpretation (performance) minus expectation.

Clearly, there are two direct approaches to increasing customer satisfaction with respect to queues: First, decreasing actual waiting time (performance), and secondly, managing the customer's expectations of the wait. New and innovative approaches are continuously being developed to reduce, and in some cases totally eliminate, customer waiting time: banks provide 24-hour service with ATMs, hotels slide bills under guest room doors on the last night of the stay so there is no need to queue to check out at the cashier desk in

the morning, and more and more restaurants are offering home delivery. When process analysis demonstrates that there are opportunities to shorten waits without adding costs, there is no question that in most situations shorter waits will improve satisfaction.

The relationship between customer satisfaction and waiting time can vary significantly between firms within an industry as well as between customers within a firm. The factors which affect this relationship can be classified as firstly factors which are primarily firm-related, factors which are primarily customer-related and factors which are both customer- and firm-related.

Service operations managers who can differentiate between these factors will be better able to understand how these factors impact on their operations by distinguishing those over which they have total or at least partial control from those over which they have no control at all.

2.5 Summary

Queues are formed when the demand exceeds the capacity of a facility. The basic components of the queue process are, the input source also called the calling population, the arrival process, the queue and the queue discipline, the service mechanism and the output. The size of the calling population can be categorized according to source; the source can be finite or infinite. In this case the population is finite since only Safaricom customers are considered. The arrival rate can be constant or randomly spaced over time. The mode of arrival can be bulk or single. Queue discipline is the order in which customers are picked for service. Customers can be served in the order of arrival or in the reverse order of arrival. Service can also be in random order and in some cases priority service can be exercised. The service system is characterized by the number of waiting lines, the number of servers, the arrangement of servers the arrival and service patterns and the service priority rules.

Customer satisfaction can be defined as a state experienced in the customers mind and involves emotional responses. This state can be determined by the customer's perception, recent performance and first impression. The relationship between customer satisfaction and waiting time can be categorized into factors which can be firm related, customer

related or both. These factors are: unoccupied time in the waiting line, preprocess waits, uncertain waits, unexplained waits, unfair waits, value of the service and solo waits, as shown on the table below.

Table 2.1: Types of waits and category of control.

Factor	Control
Unfair versus fair waits	Firm
Uncomfortable versus comfortable waits	Firm
Unexplained versus explained waits	Firm
Unknown versus known waits	Firm
Initial versus subsequent waits	Firm
Unoccupied versus occupied waits	Customer/firm
Anxious versus calm waits	Customer/firm
Solo versus group waits	Customer
Wait for more versus less value service	Customer
Customer current attitude	Customer

Despite the availability of the social media channels, Twitter and Facebook which has become a major customer service channel and the availability of the call center, email options and SMS, many customers still prefer to use the retail services resulting in long queues. This study seeks to answer the questions on whether queuing Practices can lead to improvement in customer service satisfaction at the customer care centers for the mobile phone service providers in

.

2.6 Conceptual Model and Framework

Upon arrival at the retail outlets, customers join the queue depending on the nature of service required. The customer has to wait for an available agent to be served and after service, the customer exits the system as shown in the figure below.
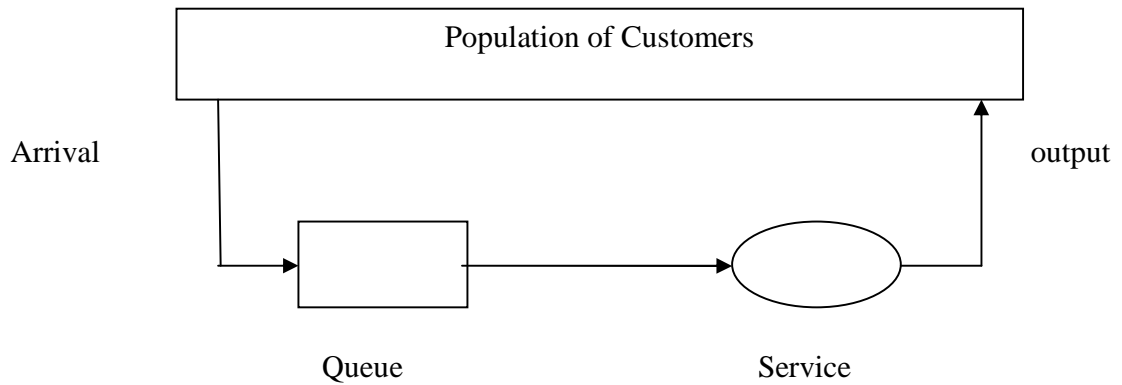
Figure 2.4: The Queuing System

Population: Mobile Service users

Arrival: Random arrival rates varying with Time

Queue: Several Parallel servers, several queues

Queue Discipline: First Come First Serve

Service: Service time, duration taken to attend to each customer

Output: Customer exits the system.

Conceptual Framework

Independent Variable

Dependent Variable

Perceived waiting time

Waiting lines /queues

Influences

Customer Satisfaction

Queuing discipline

Queuing practices
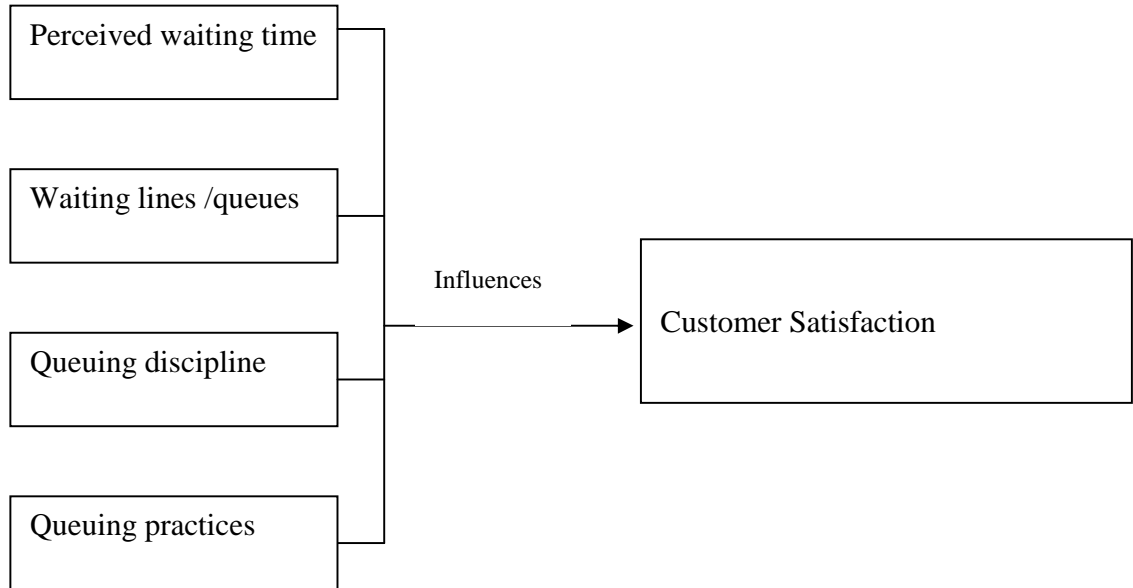
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research design that was adopted, the population and how data was collected and analyzed

3.2 Research Design

This study adopted a descriptive research design. Descriptive research entails collecting data that describe events and then organizes analyses and describes the data collection (Glass & Hopkins, 1984). Because the human mind cannot extract the full import of a large mass of raw data, descriptive statistics are very important in reducing the data to manageable form. When in-depth, narrative descriptions of small numbers of cases are involved, the research uses description as a tool to organize data into patterns that emerge during analysis. Those patterns aid the mind in comprehending a qualitative study and its implications. Descriptive studies are aimed at finding out "what is," so observational and survey methods are frequently used to collect descriptive data (Borg & Gall, 1989). This research proposal adopted a survey method. This research method is considered appropriate as it deals with many members in the population spread all over the country where it is not possible to study all of them and hence calling for sampling in order to come up with generalizations about the whole population. In addition, survey design is less biased compared to other designs like in-depth case study (Gilbert & Gips, 2000).

3.3 Population

According to Tromp (2006), population is a group of individuals, objects or items from which samples are taken for measurement or it is an entire group of persons, or elements that have at least one thing in common. The population of the study that was under consideration comprised of all mobile phone customers and managers within Nairobi

3.4 Sample

Proportionate stratified random sampling design was be used in the study. Kombo and Tromps (2006) points out that it involves dividing your population into homogenous sub groups and then taking a simple random sample in each sub group. This method was appropriate because it was able to represent not only the overall population but also the key sub groups of the population. The method will be best because it minimizes biasness. The general procedure for taking a stratified sample was to stratify population, defining a number of separate partitions using sample size, and then the results were combined to obtain the required stratified sample. The sample was to be the respondents at the retail outlet within CBD of the various service providers. There were 104 respondents

3.5 Data Collection

The study targeted customers and managers from the mobile phone providers within CBD Nairobi. Semi-structured questionnaires were used to collect primary data. This questionnaire had both closed and open-ended questions that aimed to elicit qualitative responses from the respondents. The questionnaires were administered by drop and pick later method. The questionnaire has three sections: section one targets general information of the participant and the organization. Section two had questions that seeked to answer the perception of the retails queue management practices and efficiency. Section three had questions to assess customer satisfaction.

3.6 Data Analysis

Data analysis was done by checking the questionnaires for correct completion and entries checked for consistency and accuracy. Then it was arranged to simplify coding and tabulation. To determine the relationship between queuing management practices and customer satisfaction, descriptive statistics was used by way of percentages, proportions and frequency distributions to analyze the data. The analysis tool that was used was Stata

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter covers statistical data analysis using STATA software, results and discussions of the research. Data was summarized by means of statistical averages and presented in the form of tables, charts and bar graphs. Out of 110 questionnaires distributed, 104 were completed representing a response rate of 94.54 %, which was considered satisfactory for analysis.

4.2 General Information

The respondents were asked several questions on demographics; first their gender. The results are as shown in the table below.

Table 4.1: Gender Representation

Gender	Frequency	Percentage
Male	42	46.9
Female	56	53.1
Total	98	100.0

Source: Research Data (2013)

Majority of the respondents were female with a 53.1% response. These results indicate the type of customers who mostly use mobile phone services, and also represented the gender that was more willing to share information by filling the questionnaires.

Secondly, customers were asked to state their professional status. The research findings have been summarized in table 4.2 below.

Table 4.2: Professional Status

Professional Status	Frequency	Percentage
Student	64	65.3
Employed	21	21.4
Unemployed	6	6.1
Retired	7	7.1
Total	98	100.0

Source: Research Data (2013)

Majority of the customers were students with a response rate of 65.3%, followed by employed customers with 21.4%. Retired and unemployed customers had a response rate of 7.1% and 6.1% respectively. It was established that the students were more willing to provide the researcher with information.

Thirdly, customers were asked to state their age bracket. The research findings have been summarized in table 4.3 below.

Table 4.3: Age Bracket

Age	Frequency	Percentage
Below 13 years	4	4.1
14 – 23 years	62	63.3
24 – 35 years	20	20.4
36 – 50 years	6	6.1
Above 50 years	6	6.1
Total	98	100.0

Source: Research Data (2013)

Most of the customers were aged between 14-23 years, followed by customers who are aged between 24-35 years. 6.1% of customers aged between 36 years and above, while 4.1% customers aged below 13 years. It was established that the youth dominated this research sample.

The respondents were asked why they choose to continue with their current service providers. This was to help find why customers are loyal to their providers of choice. The findings are shown in the table 4.4 below.

Table 4.4: Reasons for staying with the service provider.

Reason	Frequency	Percentage
Friends and family	22	22.9
Network coverage	20	20.8
Good services	29	30.2
Loyalty	8	8.3
Cheap call rates	17	17.7
Total	96	100.0

Source: Research Data (2013)

Majority of the respondents (30.2%) stayed because of good services .This was followed by friends and family at 22.9%. Network coverage took 20.8%. Cheap call rates 17.7% and lastly consumer loyalty 8.3%. These results showed that customers are interested in receiving good services. Turban et al. (2002) believe that good customer service boosts the level of customer satisfaction.

Respondents were asked to rate the efficiency of the service provider in serving customers queuing and what they thought management could do to increase efficiency. The findings are as shown in the table below.

Table 4.5: Increasing efficiency in serving waiting customers

Increasing Management Efficiency	Frequency	Percentage
Increase staff	28	31.1
Attend to subscribers fully	16	17.8
Low rates	11	12.2
Faster response to customers	15	16.7
Staff training	6	6.7
Improve call line services	7	7.8
Improve technology	5	5.6
Nothing, contented	2	2.2
Total	90	100.0

Source: Research Data (2013)

From the results above, it was established that most service providers were rated average in their efficiency by 53.1% of respondents, 33.3% as good and least poor 13.5%. As per the table 4.5 above customers found the most appropriate way of being more efficient is by increasing agents in the customer care centers. It was shown by the highest percentage 31.1%. There were few customers who expressed full satisfaction from their service provider .this was given by 2.2%. It was also established that satisfaction can be improved by an addition of customer care agents to serve them, thus ensuring the queue moves faster. There is indeed a big room for improvement of serving customers queuing. Scotland (1991) argues that queuing for service is a negative experience, and therefore operations managers should continually look for ways to speed up services as it has become a very important attribute (Kart, Larson & Larson, 1991)

4.3 Queuing Management Practices and Customer Satisfaction.

Managers were asked to indicate whether there are queue management practices in the customer care centers. The findings were as the table 4.6 below.

Table 4.6: Existence of Queue Management Practices

Presence of queue management practices	Frequency	Percentage
Yes	2	33.3
No	4	66.7
Total	6	100.0

Source: Research Data (2013)

As can be seen above, 66.7% response show there was absence of queue management practices and 33.3% exhibit there was queue management practices. More than half of the respondents indicated that there are no queue management practices among the mobile phone customer care centers.

Respondents were also asked to indicate which queue management practices if any, have been adopted at the customer care centers. The results are as shown in the table below.

Table 4.7: Queuing Management Practices Adopted.

Practice	n	Mean	Std. Dev
Station light	5	2.8	1.7
Audio cue	5	3.0	2.0
Single line Queuing	6	3.3	1.8
LCD	6	3.5	1.9
Reading Materials	6	3.5	1.9
Inline display of merchandize	6	3.0	2.2
Mobile staff	6	3.8	1.8

Source: Research Data (2013)

The respondents were to rate each of the queue management practices on a five point scale where 1= strongly disagree, 2= somewhat disagree, 3= neither agree nor disagree, 4= somewhat agree and 5= strongly agree. The most adopted practice was found to be the mobile staffs who serve customers while still on queue, with majority of managers somewhat agreeing. The other practices that had the same rating were the reading materials and LCD displays.

The same question was posed to customers so that they are able to identify the practices that have been out in place. Findings were as and the table 4.8 below.

Table 4.8: Customers view of queuing practice adopted at the centers

Variable	n	Mean	Std. Dev
Station light to point customers to open counters	97	2.1	1.4
Mobile staff	97	2.1	1.4
Reading material	97	1.4	1.0
LDC Display	97	2.9	0.9

Source: Research Data (2013)

The analysis was done on a five point scale where 1= strongly disagree, 2= somewhat disagree, 3= neither agree nor disagree, 4= somewhat agree and 5= strongly agree. The results show that customers feel that screens displaying videos and promotions are available at the customer care centers. The respondents neither agreed nor disagreed to

the existence of this practice. They also disagreed to the existence of mobile staff and station lights. They disagreed strongly on the existence of reading materials. This implies that the effect of service from the mobile staff as management has suggested is not strong in relation to the number of customers waiting in line. The LCD screens that occupy the customers so that the actual waiting time seems less, are either not positioned strategically to catch the customers attention, or have information that is appealing to the customer to draw their attention from the waiting line as stated by William (2009). Queuing management practices are measures that are put into place to ensure effectiveness and efficiency of services as expressed by (Kuklin 2013). The practices help reduce customers' actual wait time, perceived wait time, and improve productivity.

The other ways of managing long queues at the customer care centers were found to be floor management and also plans to open more customer care centers across the country to cub the numbers. The challenges faced in implementing techniques to manage queues in the customer care outlets came out strongly as lack of knowledge followed by both prestige customer rigidity and huge customer flow.

4.4 Customer Satisfaction and Waiting Time

Respondents were asked to estimate the time taken for service. Results are as shown on the table below.

Table 4.9: Service Time

Time taken to be served	Frequency	Percentage
0.-15 min	35	36.7
16-30 min	35	36.7
31-45min	11	11.5
More than 45 min	15	15.6
Total	96	100.0

Source: Research Data (2013)

The findings indicate that most customers wait in line for at most 30 minutes to receive a service. This was given by 36.7%. The same percentage has been seen from customers

whose service time was at most 15 minutes. A good number indicated that service took more than 45 minutes. Several customers reported that service time was between 30-45 minutes. Service time is the time elapsed from the beginning of service to its completion for a customer at a service facility. According to Shioyama (1991), it is difficult to predict accurately when demand will be placed in a facility and how much time will be required to provide the needed service as observed in the findings above.

Respondents were asked to rate their satisfaction/dissatisfaction with the process of getting their problem solved. The table 4.9 below shows the results.

Table 4.10 : Process of getting the problem solved.

Problem solving process evaluation	Frequency	Percentage
Very satisfactory	10	10.3
Satisfactory	48	49.5
Average	32	32.9
Unsatisfactory	7	7.2
Total	97	100.0

Source: Research Data (2013)

Most customers expressed that they were satisfied with the process with a response rate of 49.5%, 32.9 % of the customers rated the process as average, 10.3 were very satisfied and 7.2 were unsatisfied. From the above findings it is apparent that many customers are not satisfied by the general process of solving their problem, right from the moment they get access of the customer care center. There are some psychological aspects of customers in waiting lines that make their waiting seem lesser. This observation had been identified by Heineke (1994). This implies that the mobile phone providers are not critically looking into these aspects.

Respondents were asked to indicate their opinion on different statements that bring out the relationship between customers satisfaction and waiting time, categorized into factors which can be firm related, customer related or both. The findings are as shown on the table 5.1 below.

Table 4.11: Summary on various customers' opinion in relation to perception and satisfaction.

Variable	n	Mean	Std. Dev
Location of the care centers	94	3.9	0.8
Visiting hours are convenient	97	1.8	1.2
Atmosphere and ddecor	97	3.1	0.8
Good selection of products	97	2.6	1.9
Services rendered and good value	96	3.5	1.0
Handle many customers	97	2.4	1.1
Overall satisfaction	97	2.5	0.9

Source: Research Data (2013)

The respondents were to rate their opinions in relation to perception and satisfaction on a five point scale where 1= strongly agree, 2= agree, 3= neutral, 4= disagree and 5= strongly disagree. Customers disagreed that the location of the care centers was convenient but agreed that visiting hours were convenient. The overall satisfaction of the services at the customer care centers has been indicated as neutral.

Managers were asked to state their opinions on different parameters that relate to customer satisfaction and waiting time. The findings were as the table 5.2 below.

Table 4.12: Managers opinion on the various statements

Variable	n	Mean	Std. Dev
Well trained agent	6	1.2	0.4
Well supervised agent	6	1.3	0.5
Adherence to professional standards	6	1.2	0.4
Supervised queues	6	2.0	0.9
Many queues	6	2.0	1.0
Many agents to serve customers	6	1.5	0.8
Separated and tailored queues	6	1.2	0.4
Automated services	6	1.2	0.4
Many centers	6	2.2	0.8

Source: Research Data (2013)

The analysis was done on a five point scale where 1= strongly agree, 2= agree, 3= neutral, 4= disagree and 5= strongly disagree. The results show that managers strongly agree to that the agents at the centers are well trained, supervised, adhere to set standards of conduct, that queues are tailored based on customers' needs and services are automated to help reduce time wastage. As to whether there are many queues to serve customers, many agents to offer service and centers, the respondents agreed. According to the survey that was done by Maina (2010), one of the weaknesses noted was the very long queues at the care centers. From the findings mobile phone service providers still need to improve on the factors within the firms control to reduce waiting time.

Respondents were asked to state on a scale of 1-5 the extent to which the queuing management practices contribute to the companies and customers welfare. 1= very great extent, 2= great extent, 3= moderate extent, 4= low extent and 5= no extent at all. These findings are shown in the table 5.3 below.

Table 4.13: Extent to which queuing management practices have contributed to company and customer welfare

Variable	n	Mean	Std. Dev
Reduce the waiting time	6	1.8	0.8
Reduced work load	6	2.8	1.8
Improved quality of services	6	1.5	0.5
Increased customer satisfaction	6	1.7	0.8
Increased number of customers served	6	1.8	0.8

Source: Research Data (2013)

It was found to a great extent, queue management practices have led to increased customer satisfaction (*M=1.7*), improved service quality (*M=1.5*) and increased number of customers served (M=1.8). It also showed that the practices have reduced the work load moderately (*M=2.8*)

Customers were asked to give their experience at the customer care center. Results are as shown below.

Table.4.14: Experience at Customer Care Center

Experience at the customer care	Frequency	Percentage
Kept waiting on line	37	38.1
Had to explain severally	19	19.6
Problem was well handled	36	37.1
Had to ask others	1	1.0
Spoke slowly	3	3.1
Other	1	1.0
Total	97	100.0

Source: Research Data (2013)

Majority of the respondents (38.1%) revealed their experience as to have been kept waiting on line, 37.1 % indicated that their problem was well handled.

Respondents were asked to suggest how the queuing experience can be made a better experience and the findings are as the table 4.15 below.

Table 4.15: How queue management can be more efficient

How queuing practice can be efficient	Frequency	Percentage
Increase customer care agents	26	29.2
Improve technology	13	14.6
Faster response	10	11.2
Train Staff	10	11.2
Increase Outlets/care centers	16	18.0
Improve hospitability services	5	5.6
Specialization in departments	7	7.9
Already satisfied	2	2.3
Total	89	100

Source: Research Data (2013)

Most of the customers (29.2%) felt that increasing customer care agents would go a long way to increase efficiency. 18.0% respondents suggested that increasing outlets would be ideal, 14.6 % proposed improving technology, 11.2 % of the respondents were for training staff and faster response. 7.9 % suggested the specialization in departments and 2.3% were already happy with the queuing experience.

Regression analysis was done on the factors affecting how automization of services has increased customer satisfaction and the number of customers served, as shown below:

Table 4.16: Regression Analysis

Source	SS	df	MS		Number of obs =	6
					F(2, 3) =	5.64
Model	.658333333	2	.329166667		Prob > F =	0.0962
Residual	.175	3	.058333333		R-squared =	0.7900
					Adj R-squared =	0.6500
Total	.833333333	5	.166666667		Root MSE =	.24152

automated	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
satisafact~c	.525	.1574537	3.33	0.045	.0239121	1.026088
custserved	-.25	.1707825	-1.46	0.239	-.7935062	.2935062
_cons	.75	.295804	2.54	0.085	-.1913803	1.69138

Source: Research Data (2013)

According to the table above, the factors that are significant in automization are increased customer satisfaction level and more customers being served. This is explained by the 'P' value which should be below 10%. The 'p' value is 0.0962. This results therefore indicate that automization in the customer care centre will actually improve the customer satisfaction level and also increase the number of customers served on a daily basis.

Managers were finally asked whether there were plans underway to ensure queuing is a better experience to the customers.

Table 4.17: Plans to better queuing at care centers.

Plans to better queuing	Frequency	Percentage
Yes	6	100.00
Total	6	100.00

Source: Research Data (2013)

The findings showed that 100% of the managers' response expressed there were plan to better queuing at all customer care centers. This means that the managers are aware that there is a danger that excessive waiting time can lead to loss of customers to competitors as argued by Kotler (1999). Maister (1985) describes the relationship between customer satisfaction, customer perception and customer expectation as; satisfaction is perception minus expectation. Perception is dependent on both the customers' interpretation of the service encounter and the actual service performance. This implies that managers are ready to deploy measures to improve customer satisfaction by having approaches and practices that will decrease actual waiting time and manage customers' expectations of the wait.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter will discuss the aim of the research, Summary, Recommendations and Conclusion of the findings of the research. Limitations of the research and suggestions for further research have also been covered in this chapter.

5.2 Summary

This study was carried out to determine the relationship between queuing management practices and customer satisfaction at the customer care centers for the mobile service providers in Nairobi, and established the principles used to manage queues in the customer care centers.

The study shows that the main reason a customer will be willing to stay with a particular service provider was the service. Customers appreciate good services, and will remain loyal if the service is exceptional. It also showed that the customers want the good service with the least time possible; they would not want to be kept waiting in line. The study also brought out the need to improve customers' satisfaction levels. This was pointed as to automate services/processes, increase the customer care centers and also increase the customer care agents within the care centers.

The study also indicates that other than the customer care agents at the centers, other principles used to manage queues are mobile staffs who meet the customers while they are still on queue for service. But the mobile staffs have to be enough to meet the demand of the waiting customers. Floor management is another way of reducing the wait line by supervising staff and attending to customers complaints. Use of USSD (Unstructured Supplementary Service Data). It is a global system for mobile communication technology, which is used to send data between a phone and an application program in the network.

5.3 Conclusion

According to the study, the queue management practices played a significant but small role in customer satisfaction. The study also clearly shows that management should adopt queuing management practices in all outlets as this has seen to reduce customers waiting time, improve quality of service and subsequently increase customer satisfaction.

The findings suggested that in order to keep the customers happy, management and decision makers should concentrate also on increasing the number of skilled staff or agents. Also automating services, that is improve technology so as to respond faster to customers and make queuing more efficient. Increasing outlets or the customer care centers for easier accessibility of customers' services was also an important decision to be put into practice.

The study shows that the principals used to manage queues at the customer care centers also are an added advantage to enhance customer satisfaction. The principals were found to be floor management or supervision, use of mobile staff. These principles should be deployed especially when the flow of customers is high.

5.4 Recommendations

This study recommends that all mobile service providers should embrace the implementation of queuing management practices and systems within their customer care centers in order to have more unmatched customer experience. Also automation of process and systems should also be done to ensure that the customers wait time is reduced.

Continuous training of customer care agents and management is also recommended to ensure that at all times excellent service is offered to the customer, and to ensure faster problem solving skills. Customer education is also an important recommendation. Making sure customers are up to date with all kinds of improved technological trends on mobile technology will improve their service experience.

5.5 Limitations

The Research was conducted successfully and the research objectives were met, however, there were some limitations: First, the time dedicated to the project was not enough due to job and school demands and deadlines. This made it hard to make visits to the customer care centers as many times as it would have been ideal to collect enough data especially from management. Secondly, access to information was not very easy as some respondents were not willing to complete the questionnaires since they were suspicious of the intentions of the study.

5.6 Suggestions for future Research

This research was specifically designed to study influence queuing management practices and customer satisfaction among mobile phone customer care centers in Nairobi. It is recommended that further research on queuing management practices and systems to be carried out in the other cities in Kenya. The research can also be extended to other hospitality industries in the Kenyan market e.g. Banks because they are also confronted by the issue of queues. Follow up research within the mobile service providers can also be done to enhance the body of knowledge.

REFERENCE

Agnès D.M. (1999) "Waiting for service: ten years of empirical research", International Journal of Service Industry Management, Vol. 10 Iss: 2, pp.171 – 194.

Ashley D.W. (2000). An introduction to queuing theory in an interactive text format. Transactions on Education; 2(3):1-14.

Bitner M.J. & Zeithaml V. A. (2003). Service marketing, third edition. New Delhi: Tata McGraw Hill.

Borg W.R. & Gall M.D. (1989) "Educational Research: An Introduction", Longman.

Bunday B.D. (1996). "An Introduction to Queuing Theory". Halsted

Cooper D.R. & Schindler P.S (2003).Business Research Methods (8th ed). Irwin /McGraw-Hill, Boston.

Dimitriades A.S. (2006). Customer satisfaction, loyalty and commitment in service organizations: some evidence from Greece. Management Research News, 29(12), 782-800.

Fahamu (2007). Available at: http://www.kiwanja.net/database/document/report fahamu_mobile_activism.pdf

Gail T. & Scott L, (1995) "Waiting time delays and customer satisfaction in supermarkets", Journal of service marketing, vol. 9 Iss:5, pp 20-29.

Gilbert G. & Gips M. (2000). Supply-side contingency planning. Security Management, 44, (3): 70-74.

Gilmore A. (2001) 'Call Centre Management: is service quality a priority', Managing Service Quality, vol. 11, no. 3 pp. 153-159.

Graf R.C (1984) Glass and Hopkins, "Statistical Methods in Education and Psychology, Second Edition" Prentice-Hall.

Houston M.B., Betthencourt L. A. & Wenger S. (1998) "The relationship between Waiting in a service Queue and Evaluation of Service Quality: A Field Theory Perspective,"

Karen L. Katz & Blaire R. Martin (1989), Improving customer satisfaction through the management of perceptions of waiting.

Katz K., Larson B. & Larson R. (1991), ``Prescriptions for the waiting in line blues: entertain, enlighten and engage", Sloan Management Review, Winter, pp. 44-53.

Kombo & Tromp (2006) Research Tools 3rd edition Jaico Publishing House, New Delhi.

Kotler P. (1999) Marketing Management. The New Millennium Edition.

Kotler P., Leong S. M., Ang, S. H. & Tan C. T. (1996), Marketing Management: An Asian Perspective, Prentice-Hall, Singapore.

Maina J. (2000) available at :http://publications.thesus.fi/bitstream/handle/10024/22222/ maina_janet.pdf?sequence=1

Maister D. (1985) "The Psychology of Waiting Lines", in Czepiel, J.A., Solomon, M.R. and Surprenant, C. (Eds), The Service Encounter, Lexington Books, D.C. Heath and Co.,Lexington, MA.

Maltz A. & Maltz, E. (1998), Customer Service in the Distribution Channel empirical findings, Journal of Business Logistics.

Mark M.D. & Janelle H. (1994) "Understanding the Roles of the Customer and the Operation for Better Queue Management", International Journal of Operations & Production Management, Vol. 14 Iss: 5, pp.21 – 34.

Market Africa Mid-East –"Cell phone update by Media contrast resources, Inc" (2007)". Available at: http://www.entrepreneur.com/tradejournals/article/160948521.html

Michael K. (2001) "Service on Call" in Banking Technology News Service Network. http / www.fineos.com / documentation/ features/ bankreach.com.

Nigel H. & Jim A. (2000) "Handbook of Customer Satisfaction and Loyalty Measurement, Second edition".

Proctor R. A (1994) "Queues and the Power of Simulation: Helping with Business Decisions and Problems", Management Decision, Vol. 32 Iss: 1, pp.50 – 55

Safaricom website, .. (n.d.). http://safaricom.co.ke.

Shah A. (2007). The Yale Journal of Public Health. Available at: http://www.cdc.gov/news/2007/03/images/mobiletech.pdf.

Shioyama T. (1991), "Optimal control of queuing network system with two types of customers", European Journal of Operational Research, Vol. 52 pp.367-72.

Sridhar M. S. (1998) "Customer participation in service production and delivery system". Library science with a slant to documentation and information studies. Vol .35(3); pI57-163.

Sridhar M. S. (2001) Waiting Lines and Customer Satisfaction. SRELS Journal of
Information Management, 2001, vol. 38, n. 2, pp. 99-112. [Journal Article
(Print/Paginated)]

Stahl M. J. (1999), Perspectives in Total Quality. Blackwell, Milwaukee, WI.

Turban E. (2002). Electronic Commerce: A Managerial Perspective. Prentice Hall.

William J. S. (2009) "Operations Management, Tenth Edition" McGraw-Hill, 2009

Yechiali U., Altmand, E. & Kofma, D. (1995) "Discrete Time Queues with Delayed
Information Vol. 19:361-376.

Yin R.K. (1984). Design and Methods: Case study research. Newbury Park*, CA: Sage*
Yu Mobile Website. (n.d) http://www.yu.co.ke

APPENDICES

Appendix I: Questionnaire

This questionnaire is for the purpose of collecting data for the purpose of academic research. This questionnaire will benefit the researcher in accomplishing academic goals. You are kindly requested to answer the questions genuinely and exhaustively. Please tick within the boxes and fill the structured questionnaire with applicable answer to enable the study to be successful.

Customers Questionnaire

Section A: General Information

1. Indicate your gender

   Male   ( )   Female   ( )

2. Indicate your age

   i) Below 13 years   ( )   ii) 14-23 years   ( )   iii) 24-35 years ( )

   iv) 36-50 years   ( )   v) Above 50 years   ( )

3. What is your professional status?

   i) Student   ( )

   ii) Employed   ( )

   iii) Unemployed   ( )

   iv) Retired   ( )

4. a) Who is your mobile service provider?

   i) Safaricom Limited   ( )

   ii) Airtel Kenya   ( )

   iii) Yu- Mobile   ( )

   iv) Orange Telkom   ( )

   v) Any other _____

   b. What makes you stay with the service provider you have selected in (a) above?

   _____

5. How long have you been a customer in this company?

    i) 0- 4 years   ( )

    ii) 5-8 years   ( )

    iii) 9-12 years   ( )

    iv) Over 12 years   ( )

6. How would you rate the efficiency of your service provider in serving customers queuing?

    i) Good

    ii) Average

    iii) Poor

    iv) Very poor

7. How do you think the management can do to be more efficient?

    _____

Section B: Queuing Management Practices

1. Do you have queuing management practices at the customer care center your Company?

    i) Yes (   )

    ii) No   (   )

2. If yes, which of the following queuing practice is adopted?

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Station lights to point customers to open counters					
Audio cues to call customers to point of service					
Single-line queuing					
LCD screens displaying videos or promotions					

Reading materials					
In-line displays for merchandising					
Mobile staff to serve customers while on queue					

3. Rate your level of satisfaction on how queues are managed at the customer care center?

    i) Very good   ( )

    ii) Good   ( )

    iii) Fair   ( )

    iv) Poor   ( )

    v) Very poor   ( )

4. Indicate the best representation in terms of minutes of customers waiting time at the customer care center?

    i) 0-15   ( )

    ii) 16-30   ( )

    iii) 31-45   ( )

    iv) More than 45 ( )

5.   Kindly indicate your opinion in regards to the following statements

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The queues are supervised					
There are several queues at the customer care center to serve customers					
There are many people who serve the customers to reduce the waiting time					
The queues are separated and tailored based on customer needs					

Some services are automated to help reduce time wastage					
There are many centers to reduce long queues in the place.					

6. In what other ways does the company manage queues in your company?

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

7. Do you think the queue management practices have been of help to improve the waiting time and queuing problems at the customer care center?

Yes   [ ]   No [ ]

8. In what other ways has the management of the queues been of help to you as a customer?

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

Section C: The perception and Satisfaction of the Customers

9. Please indicate your opinion about each of the following statements.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree.
Customer care centers are conveniently located					
Visiting hours are convenient for the customer services needs					
Customer care center's atmosphere and décor are appealing					
A good selection of products and services is present					

Services rendered are of high quality					
Services rendered are of good value for the time spent waiting					
The customer care agent handled many customers quickly					
Overall I am satisfied with the retail services					

10. Approximately how long does it take you to be served at the customer care center in minutes?

    i)   0-15   ( )

    ii) 16-30   ( )

    iii) 31-45   ( )

    iv) More than 45   ( )

11. The process of getting your problem resolved was

        i) Very Satisfactory

        ii) Satisfactory

        iii) Average

        iv)Unsatisfactory

        v) Very poor

12. What would best describe your experience, when you visited the customer care center?

    i)   Kept on waiting on line

    ii) Had to explain several times

    iii) My problem was well handled

    iv) Had to ask others

    v) Spoke slowly

    vi) Other_____

13. Rate the knowledge and skill of the customer care who served you?

     i)   Best

     ii) Good

     iii) Fair

     iv) Poor

     v) Worst

14. The customer care agent

     i)   Gave me correct information

     ii) Didn't understand the question

     iii) Gave unclear answers

     iv) Couldn't solve problem

     v) Disorganized

     vi) Other_____

15. What do you think should be done to increase the effectiveness of the queuing practices used by at the customer care centers?

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

…………………………………………………………………………………………

Management Questionnaire

Section A: General Information

1. Who is your mobile service provider?
   - i) Safaricom Limited　　( )
   - ii) Airtel Kenya　　　　( )
   - iii) Yu- Mobile　　　　( )
   - iv) Orange Telkom　　　( )

2. How long have you worked in the company?
   - i) Less than 5 years　　　　( )
   - ii) Between 6-10 years　( )
   - iii) Above 10-15 years　( )

3. For how long has the company used queuing as an operation management technique?
   - i) Less than 5 years　　　　( )
   - ii) Between 6-10 years　( )
   - iii) Above 10-15 years　( )

4. Has there been any study done to assess customers view on queuing?
   - i)　　Yes　　　( )
   - ii)　　No　　　( )

5. If yes, when was it done?

   _____

   _____

   _____

6. What was the finding?

   _____

   _____

7. If no, indicate your opinion.

   _____

   _____

8. Please indicate your opinion about each of the following statements.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Customer care agents are well trained					
Customer care agents are well supervised					
Customer care agents adhere to professional standards of conduct.					
The queues are supervised					
There are many queues which serve customers					
There are many people who serve the customers to reduce the waiting time					
The queues are separated and tailored based on customer needs					
Some services are automated to help reduce time wastage					
There are many centers to reduce long queues in on e place.					

9. Do you have queuing management practices at the customer care center in your Company?

   i) Yes   (   )
   ii) No   (   )

10. Which of the following queuing practice is adopted in the customer care centers?

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Station lights to point customers to open counters					
Audio cues to call customers to point of service					
Single-line queuing					
LCD screens displaying videos or promotions					
Reading materials					
In-line displays for merchandising					
Mobile staff to serve customers while on queue					

11. For how long is the practices above been in use?

    i) Less than 1 year   (   )

    ii) 1-5 years   (   )

    iii) 6-10 years   (   )

    iv) More than 10 years   (   )

12. Indicate the extent to which the queuing management practices have contributed to the welfare of company and the customers.

	Very Great extent	Great extent	Moderate extent	Low extent	No extent at all
Reduced the waiting time for customers					
Reduced the workload of the employees					
Improved the quality of the services since an agent deal with a small number of people					
Has increased customers satisfaction					
Has increased the number of customers being served per day					

13. What other practices has the company put in place to manage long queues in their customer care centers across the country?

    _____

    _____

    _____

14. What challenges are you facing when implementing techniques to manage queuing at retail shops?

    _____

    _____

    _____

    _____

    _____

15. How do you control long queues in at the customer care outlets?

_____

_____

_____

_____

16. What is been done to reduce the customers waiting time?

_____

_____

_____

_____

_____

17. Are there any plans been taken to ensure queuing at the retail shops is a better

experience to the customers?

   i) Yes   ( )
   ii) No   ( )