

**CAPACITY MANAGEMENT, SERVICE QUALITY AND
CUSTOMER SATISFACTION IN INFORMATION TECHNOLOGY
SERVICE COMPANIES IN NAIROBI, KENYA**

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DECLARATION

This research is my original work and has not been submitted for a degree in this or any other university.

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To my parents Mr. Stanley Kirui and Mrs. Emily Kirui, my siblings and all my friends for the support and encouragement and their presence throughout the entire period.

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LIST OF ACRONYMS

CDT	Expectation Disconfirmation Theory
IS	Information Systems
IT	Information Technology
ITES	Information Technology Enabled Services
KITOS	Kenya IT and Outsourcing services
UIS	User Information Satisfaction

ABSTRACT

IT service providers are companies that provide advice to companies on how best to apply IT in their operations in order to achieve their objectives. Capacity management for IT service companies is important for optimization of available resource and competitiveness. The main objective of this study was to establish capacity management strategies used by IT service companies in Nairobi, Kenya, the most important service quality dimension that impacts customer satisfaction and to also establish how service quality influences the relationship between capacity management and customer satisfaction as well as challenges faced by the firms in implementing capacity management strategies. The researcher adopted a cross-sectional research design to carry out the study on 28 IT service companies registered with the Kenya IT and Outsourcing Services (KITOs) organization as at September 2017 and their customers based in Nairobi. The researcher used a questionnaire to collect primary data. Regression and correlation analysis was carried out to establish the relationship between the variables and the direction of the relationship. The study ascertained that the four capacity management strategies under study i.e. Level strategy, Chase demand strategy, coping strategy and minimum staff levels have been adopted by the IT service firms to various degrees. However, the most adopted capacity management strategy by IT service companies is Chase demand strategy. The study also established that the capacity management practice adopted has a positive influence on service quality. SERVQUAL scale was applied to measure service quality of IT service companies. The results from the study of impact of service quality dimensions namely Assurance, Responsiveness, Tangibility, Empathy and reliability on customer satisfaction was studied show that Assurance has the highest impact followed by Responsiveness while Empathy has the lowest impact. The four conditions of Baron and Kenny (1981) were met and therefore the results of the study show that service quality plays a mediating role between capacity management and customer satisfaction. The study also establishes that although the various firms manage their capacity, there are still challenges in their implementation such as the high cost of implementation, lack of qualified staff and lack of proper communication among others. In order to ensure effectiveness in their operations, this study recommends that IT service companies should have a capacity management strategy implemented and rally the whole organization to support its implementation given that capacity management greatly impacts service quality and customer satisfaction. The IT service companies should also look at reviewing their working hours in order to make their services available to the customer when needed and also customize them to meet individual needs of each customer.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Information Technology (IT), which is a knowledge-intensive industry, has an enormous potential for accelerating economic growth, increasing productivity across all sectors of the economy and is considered to be a means of efficient governance. The global information technology has been growing at a constant rate and it surpassed \$3.7 trillion in 2015 and about \$3.8 trillion in 2016 according to the research consultancy IDC. The emerging markets in Africa, Asia and Latin America which are rapidly growing have shifted the market proportions because of the growing number of the middle class. IT covers hardware, software, services, information and infrastructure. The increasingly competitive world and limited economic resources have pushed organizations to be efficient in their organizational structures which include cost-effective information technology systems. Because of the rapid growth, complexity and urgent attention demanded by IT, outsourcing by organizations to specialist companies is becoming an increasingly strategic option. The threat on IT delivery services that has a high impact on all processes is customers who are dissatisfied, solutions delayed and lastly low employee morale (Nazimoglu & Ozsen, 2010).

The provision of quality experiences to customers has been proven to be a sustainable competitive advantage which improves a company's financial standing. The success of service providers is now dependent on their ability to provide customer-focused services in the rising service economy (Gustafsson & Johnson, 2003). High quality service delivery during service encounter is the key to gaining a competitive edge over the competitors. Quality service and customer satisfaction are being reinforced as one of the main concerns of manufacturing as well as service organizations in the increasingly competitive world which puts the customer at the focal point (Wang, Hing-Po & Yang, 2004). The agility of an organization is affected by the ability to plan for future resource requirements as well as being able to optimize the ones that they currently have. It is therefore beneficial for an organization to learn how to plan and manage capacity so as to

achieve a balance between the quality of services required for its growth and ongoing success and the investment in resources whether financial or human.

1.1.1 Capacity Management

Capacity is defined as the productive capability in total of all the utilized factors of production that includes workforce and machinery (Alp & Tan, 2006). The capacity of a production system defines the firm's ability to compete by determining its response rate to the market, costs incurred to run the business, its ability to constitute its workforce, the investments to be made on technology, its management and staff requirements and how they will manage their inventory. Lovelock (1992) defines service capacity as the maximum output that may be obtained in a definite period with a given amount of resources.

Capacity management can be defined as the process balancing between the demands of customers and making the delivery system of the service efficient and effective to satisfy the demand. Capacity management is considered to be a very crucial role to organizations which involves matching capacity in the long term and demand while considering operations and tactical aspects. Armistead and Clark (1991) indicate that an organization can be able to project its short-term and long term demands through management of capacity and the planning of the resources of a company. The level of capacity has an impact on response to new projects, finances and other performance measures. A company can either lose its customers through slow service or perceived lack of attention hence quality issues or by allowing its competitors to get access to its customers if the capacity is not sufficient.

In services, managing capacity so that supply is matched with demand directly influences the firm's ability to deliver timely services while maintaining the quality standards. Operation managers face difficulty in the management of capacity because of how services are made up, the process of delivery and the interaction between service provider and the customer during service delivery which limits the options used for tangible products to align supply to demand; namely, adjusting the capacity, maintaining buffer

stock and requiring customers to wait for the service. Services cannot be produced in advance when demand is anticipated and stocked as inventory, (Armistead & Clark 1991). It is imperative to understand how the demand of your firm behaves (Lovelock, 1984) and secondly which strategy best applies to your firm in order to meet the expected demand. It follows therefore that operation managers must understand how their capacity is structured, whether or not it can be changed and to what level, and how fast it can be altered (Slack, 1987) and the costs involved (Hart, Heskett & Sasser, 1990).

The task of harmonizing supply and demand can make an organization to forego opportunities to meet the needs of other customers during peak demand and translates to unreasonable costs resulting from forgone income during periods of low demand and the available fixed capacity is not optimized. Many organizations are facing challenges largely because in the past many organizations employed capacity management in a more tactical way, with a specific team looking to address a specific set of goals, facilities and systems rather than planning capacity from an enterprise-wide perspective. Capacity management in IT can then be said to be the process of ensuring that IT resources are aligned with the current and emerging demands. Therefore, core operational objectives of an IT team can be addressed through capacity management which is considered key in satisfying demand. Capacity management process can be said to be a success if the amount of IT capacity in place satisfies the needs of the business and also the forecast for IT capacity is accurate

1.1.2 Service Quality

Service quality is the ability of a provider to deliver the results that a customer wants consistently (Chumpitaz & Paparoidamis, 2007). Fotiadis and Vassiliadis (2013) define service quality as the result of how a customer perceived the service compared with how they expected the service delivery to be resulting from how a customer looks at a bundle of service. Quality in services is a theoretical construct, as contrasted to goods where the physical aspects of quality exist and can be identified. Service quality is important to firms because as service quality increases so does profitability, market share, returns on investment and satisfying the customers therefore retaining them. The provision of

outstanding service quality gives a competitive advantage to an organization and results in high financial gains and existence in a very competitive business world. The abstractness of service quality makes objective measurement almost impossible hence the challenge comes in managing user perceptions and appearances. Service quality when it comes to the service sector is still shrouded in mystery and harmonization on what makes delivery effective has not been done (Johnston, 1995; Voss, Roth, Rosenzweig, Blackmon & Chase, 2004a). Parasuraman et al. (1985), who came up with SERVQUAL scale, argue that the reason why service quality concept has not been clearly defined is because quality has always been understood from the perspective of traditional manufacturing definitions of quality which apply to products rather than services.

Zeithaml, Valerie, Parasuraman and Berry (1990) suggested that service quality can be examined through the measurement of the expectations of customers and their perceptions of performance levels across some service attributes. To measure service quality therefore, one has to calculate and average the difference between the expectations of the customer and his view of actual service across the given attributes. The difference between expectations and perceptions, known as the gap, is then measured. The key factors that determine the service quality expectation, as suggested by Zeithamal et al. (1990), are word-of-mouth communications, personal needs, past experiences, and communications by the service provider to the user. Convenience attribute has been cited in most of the studies covering IT/IS-based services as a determinant of service quality (Allen, 1997; Baily & Gordon, Cline, 1997; 1988; Milligan, 1997; Reed, 1998).

Parasuraman et al. (1985, 1988 & 1991) followed the framework of Churchill (1979) by operationalizing their conceptual model of service quality through an instrument with 22 items that reflects the dimensions of service quality SERVQUAL. The service dimensions are Tangibles which is regarded as the look of the facilities, equipment and personnel, Reliability which is performing the service with precision and accuracy, Responsiveness which is demonstrated by how the service provider's willingness to help customers and being prompt in their service provision, Assurance given by the comfort of

the customer knowing that the employees know their work and show courtesy and being able to attain trust and confidence in them and last being Empathy which is being caring, and customizing solutions to the needs of each customer.

1.1.3 Customer Satisfaction

Kotler (2000, p.36) defines satisfaction as a person being happy or disappointed with a product's perceived performance in relation to what they expected. Most researchers agree that customers form an attitude or evaluate satisfaction by comparing their expectations before purchasing the service or product to their personalized feelings of how the service or product was after consumption (Oliver, 1977, 1993).

Organizations whose objectives are to satisfy their customers, must therefore aim at increasing the standards of quality of the services they are offering. This is particularly important because contented customers are repeatedly make purchases or become loyal to the firm than those who are dissatisfied. The literatures also show that there are no agreed determinants of service quality and the influence of each attribute on customer satisfaction varies from one study to the other as well as from one context to the next. This clearly shows why firms would benefit greatly by identifying the attributes of service quality that are relevant to their service context so as to show managers on what they need to improve thus satisfying their customers (Izogo & Ogba, 2015).

1.1.4 IT service companies in Nairobi

Information technology covers use of computers, storage, network devices and other physical devices, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data to achieve specific objectives. IT service providers are companies that provide advice to companies on how best to apply IT in their operations in order to achieve their objectives. They also install, deploy, implement and manage systems, repair and maintenance of IT equipment, integration, application enhancements and support for their clients. The IT service delivery companies covers firms that provide professional services, IT security consultants and staffing firms that

train and provide IT professionals to businesses on a temporary basis in response to temporary skill shortages or technical projects.

Nairobi city is the business and financial center of Kenya and East Africa. Global firms have made it a habit to establish their branches or subsidiaries in Nairobi as a point of entry into the East African market. Nairobi is referred to as the silicon savannah and it has grown into the regional model for technology innovations. Global IT multinationals such as Samsung, Hewlett-Packard, LG, Toshiba and Sony have their regional liaison offices in Nairobi. The technology scene which continues to grow rapidly has triggered the emergence of technological hubs and institutions. In a span of ten years technology related services have grown into a \$360 billion dollar industry thus making Nairobi a center for technology. This growth has been made possible by government support through projects and initiatives, digitization of government services and the emergence of different technological inventions whereby developers have taken great advantage to create different platforms and software. Kenyan companies in their bid to be efficient and effective in their operations, have adopted technology in their operations which has given rise to all sorts of technology start-ups.

1.2 Research Problem

Managing capacity so as to match supply and demand will determine the failure or success of a delivery system to achieve its target for service quality and efficiency. Operation managers put capacity management at the heart of their planning and control processes. Capacity varies at different levels even when demand is kept constant. The discrepancy in the way people and equipment accomplish their work causes fluctuations (Armistead & Clark, 1991). Capacity management is used by operations managers to minimize a trade-off between quality and resource productivity. Focus should be placed on factors in capacity management which influence service quality and productive performance (Bitner & Zeithamal, 2003).

Because of the rapid development of IT sector in Kenya, the main challenge faced by IT companies, has been to balance the capacity available while ensuring that service quality is maintained. Changes in service quality results in changes in customer perceptions or causes underlying dissatisfaction. Without comprehensive, effective capacity management, IT organizations cannot be efficient in their service delivery. This means that their approach to customer needs and requirement is based on reactions to situations or events rather than being proactive. This not only makes it difficult to manage current resources and demands related to capacity, but it also in a big way prevents the organization's ability to support upcoming requirements and initiatives. For this reason therefore a good evaluation of services in IT is needed with consideration to the different changes such as rapidly changing demand and changes in customer perception regarding their service experience.

In their study on capacity management model in service industries, Adenso-Diaz, Gonzalez-Tore and Garcia (2002) established that uncertain demand and requirements that must be customized to meet individual requirements make it difficult to plan and assign the maximum possible output of a system or plant. Bairi, Manohar and Kundu (2012) stated that innovation and the use of new tools and techniques is very important in IT as they lead to an increase in the quality of services offered by a firm which in turn gives value to the customer and increases a firm's profitability.

Delgado-Alvarez, Van-Ackere, Larsen and Arango-Aramburo (2017) study on the management of capacity at a service facility using an experimental approach established the importance of having a well-developed information system to help the manager in making decisions particularly in a fast changing environment which requires continuous adjustment. They also noted that there was a need for system-redesign in order to shorten the delays and make the system more vibrant thus easier to manage.

Locally, Onyango (2016) did a study on capacity management and service industry performance focusing on the hospitality industry particularly Sunset hotel-Kisumu and observed that the difficulty in managing demand resulted in shortages in some stations

while there was a surplus in others. Wairimu (2014) looked at the capacity management strategies applied by petroleum distribution firms in Kenya and how they influenced service quality and she observed the difficulties in effective capacity management in the petroleum industry.

All the above mentioned studies however do not look at the capacity management strategies employed specifically by the IT industry and its impact on perceived service quality and customer satisfaction. This study therefore intends to enhance these studies by answering the question; what is the effect of capacity management strategies on service quality and customer satisfaction in IT service providers in Kenya?

1.3 Research Objectives

The objectives of this study are as follows:

- i. To establish the capacity management strategies used by the IT service providers in Kenya
- ii. To establish the service quality dimension with the most impact on customer satisfaction
- iii. To determine the relationship between capacity management strategies, service quality and customer satisfaction in IT services.
- iv. To establish the challenges faced by IT service providers in Kenya in managing their capacity.

1.4 Value of the Study

In the past few years, a significant growth has been noticed in IT namely, consulting, business transformations through ERP implementations, digitization of government services and even off shoring services. Taking into consideration the how costly it is to acquire new customers and very high turnover of customers in the IT industry, it is very important to study the capacity management strategies applied in the IT services industry. This study narrows down its research directly on service quality as one of the factors affected by capacity management strategies and the extended effect capacity management has on customer satisfaction.

This study is also important to IT services providers who intend to stay competitive in the industry as well as those service providers intending to enter the IT market in Kenya. Capacity management being at the heart of operation management has elicited a lot of attention. This will provide additional reference material by researchers and academicians who have an interest in conducting more studies in the field of capacity management for services and more so in the IT Industry.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides more details about what other researchers have done in the same area of study. This chapter will be looking at the various schools of thoughts or major issues, identify the gaps in the literature and questions in the gap that we could focus our data collection or analysis from.

2.2 Theoretical Review

2.2.1 Expectation Disconfirmation Theory

The expectancy disconfirmation theory (CDT) suggests that a customer's satisfaction or dissatisfaction results from the evaluation of the actual service or product. It is considered to be the most dominant theory of satisfaction (Mattila & O'Neil, 2003). The theory forms its basis on a customer's comparison of his or her expectations with the perceived performance. With respect to IT expectations can be defined as a forecast of technology performance with regard to some chosen attributes (Bhattacharjee & Premkumar, 2004; Spreng & Page, 2003). A customer is said to be positively disconfirmed or satisfied when the service performance or product meets or exceeds their expectations. If however, the performance falls below the expectation of the customers, they experience dissatisfaction or will be negatively disconfirmed. Positive disconfirmation increases the level of satisfaction while negative disconfirmation will have the opposite effect. In a case where expectations are perfectly matched with performance, no effect on satisfaction occurs. This is because a user forms expectations from past experiences and word of mouth (Kotler, Siew, Swee & Chin, 1996).

In the context of IT services, CDT would recommend that the service provider should try and establish the customer's expectation prior to the delivery of the service. The customer's expectations may be based on industry reports, reputation, marketing initiatives and other customers' experiences. These expectations may be magnified positively or negatively depending on the interests of the source of information. The customer however will be able to provide feedback on whether their initial expectations

were met after the usage experience. Although this theory has been supported strongly as a measure of satisfaction, Churchill and Surprenant (1982) in their criticism of the theory stated that disconfirmations or expectation is inconsequential to the user's satisfaction with durable goods but rather satisfaction is based on the performance of the durable goods. This study will form its basis upon the disconfirmation of expectations as a precursor to customer satisfaction.

2.3 Capacity Management Strategies

Effective capacity management has become a critical factor that sets apart IT organizations. The organizations that attain progress in their capacity management capabilities will be able to more effectively optimize their investments, support key IT projects, and align resources with business objectives. Gilmore and Carson (1993) classified capacity management strategies under two major categories: operational and capital management. Operational strategies may be directed at ensuring that the maximum gain is received out of the investments on assets over a period of time by increasing revenue or reducing costs or both. On the other hand, capital management entails debt and asset management strategies through, regulation of debt and borrowing costs. In general, service organizations have been found not displaying unique characteristics as identified by Sasser (1976) but rather the characteristics of chase or level capacity strategies.

The Level capacity strategy acknowledges the fact that changing the capacity which a process was designed for does not happen instantly. This means that the company maintains the same number of staff, materials or machines in a particular period. A pure level capacity strategy is not the best strategy for services given that services experience seasonal demand. Chase demand strategy aims at matching capacity to the demand that changes from period to period. It is also known as demand matching strategy. This strategy is described by Sasser as entailing the control of the level of capacity through change of the extent of resources by overtime, using part-time employees, subcontracting or leasing equipment and cross-training employees to be able to perform more than one service. It is commonly practiced by industries that can easily train new

employees to begin work quickly as well as companies that have good responsiveness and ability to change easily.

The coping strategy is an expansion of the Chase and Level capacity management strategies. When service organizations do not have the capacity to satisfy demand at any given stage when the service is required by the customer then two things could happen, which are; to lower the standards of quality while ensuring that the impact on the service is minimized or to try and manage the expectations of the customer thus not affecting their view of the service delivery and in the process ensuring that the standards for the core service are not affected (Armistead & Clark, 1994). The opposite of this is when there is more capacity than demand which leads to reduced efficiency and in other instances lower quality. In this scenario, the coping strategy is used to curtail these negative effects by taking it as a period for staff to rest or recover or transferring them to other sections where their services are required. Klassen and Rohleder (2002) suggests that companies should pick the demand and capacity management strategies that will help them to achieve good service, lower costs and increased profitability. Minimum staffing level capacity management strategy is where organizations try to establish the minimum number of staff requirement that a firm can operate without the quality of its service being affected. The model ensures that the staff is distributed properly among the different units of the organization and therefore resources are better utilized or rather optimized.

2.4 Service Quality

Service quality is the result of a customer's comprehensive analysis of the contrast between expected performance and actual service performance (Othman & Owen, 2002). By conducting thorough interviews with firms and targeted groups in four service industries, Parasuraman, Zeithaml and Berry (1985) came up with five determinants of service quality. These determinants of service quality are namely; tangibility which is the visual appeal of physical facilities, reliability which is the performance of a service by the service provider in a dependable, reliable and with accurate way, responsiveness which is promptness in providing the service and helpfulness, assurance defined as employees having the required knowledge and skills, being courteous and conveying trust and the

last attribute being empathy which is the care and tailor made solutions the firm gives its customers. The measurement scale for service quality based on the dimensions given above is called SERVQUAL. Service quality is said to be a focused evaluation of what a customer was expecting prior to receipt of the service and in the process of receiving the service and the actual experience from the service delivery system.

These perceptions of quality dimensions determine how a person will react to the particular service. The SERVQUAL scale has been adapted to different services such as professional services (Dart & Freeman, 1993), tourism (Tribe & Snaith, 1988), business school (Pariseau & McDaniel, 1997) healthcare (Lam, 1997), and information systems (Kettinger & Lee, 1994) to measure their quality. Cronin and Taylor (1992) challenged the use of SERVQUAL and argued that the measurement of service quality should be from its performance. In a bid to test the accuracy and dependability of the two major service quality measurements: SERVQUAL and SERVPERF, Jain and Gupta (2004) compared the two through a comparative analysis. An ideal service quality scale is one that measures what it ought to, accurately and dependably and also performs effectively while its variables are altered so that the people responsible for taking corrective actions in the event that quality standards are not met can be able to understand the source of the deviation. The accuracy of the quality scales was assessed by surveying consumers of fast food restaurants in Delhi. It is the SERVQUAL scale which outperformed the SERVPERF scale because of its strength in providing accurate results that show precisely what managers need to do when the quality of their services are falling.

In Kettinger and Lee's (1994) study which pioneered the use of SERVQUAL in the information technology context, it showed that the four dimensions, reliability, assurance responsiveness and empathy are determinants of service quality in IT. The tangibles dimension was found to be missing. Since SERVQUAL has been established as a comprehensive method, this study will borrow from it and apply to cover service quality in relation to the IT service providers in Kenya.

2.5 Customer Satisfaction

The definition of satisfaction varies from one researcher to the other but the common argument is drawn from a customer's judgment of the utilization experience that is formed through some kind of cognitive process of comparing what was expected and what was received. This however does not mean that a customer cannot make a judgment however temporary along the consumption process but also that it is possible to make satisfaction judgments after a definite transaction or after a series of transactions. In IT satisfaction is defined as how the users rely on the information system and how services available to them meet their needs (Ives, Olson & Baroudi, 1983). There are two or more different concepts of customer satisfaction. One looks at it from the perspective of a specific transaction while the other focuses on the cumulative process (Boulding, Staelin, Kalra & Zeithaml, 1993; Andreassen, 2000). The concept on specific transaction views the satisfaction of a customer as a way in which the customer expresses his attitude or judgment made post choice in a one or specific occasion (Oliver, 1977, 1993). Cumulative customer satisfaction however is where a customer makes an evaluation based on the cumulative experiences of both purchase and consumption after a series of transaction (Johnson & Fornell, 1991; Anderson, Fornell & Lehmann, 1994). Cumulative satisfaction impels an organization to invest in customer satisfaction because it is a core measure of an organization's past, present and future performance.

In order to get the most reliable feedback that will provide a customer's preferences or experiences in a direct, practical, objective and meaningful way, customer satisfaction has to be measured. Different instruments for measuring customer satisfaction in IT services have been developed over the recent years. The most widely used instrument was developed by Bailey and Pearson (1983) and identifies ease of use, flexibility, data security, timeliness, speed, relevance among others. The determinants of customer's intentions and level of satisfaction vary from one service context to another and they cannot be generalized. Atkinson (1988) identifies value for money, cleanliness, security and courtesy of staff as governing the satisfaction of customers. In his study, Knutson (1988) established that the cleanliness of a room and its comfort, a good location, fast service, safety and security and amiable employees ranked up in the list of determinants.

Akan (1995) establishes employee behaviour, cleanliness and timeliness as the most important determinants of satisfaction. In their findings Choi and Chu (2001) determined that the aesthetic qualities of a room, the attributes of employees and perceived value are considered among the top attributes that will lead to the satisfaction of customers in a hotel.

The rise in the levels of satisfaction and customer retention generates referrals from customers, higher revenues and lower marketing costs for the company (Reichheld, 1996; Heskett et al., 1997). Thus, customer satisfaction could be considered as a starting point for setting the performance standards and a possible measure of distinction for all business organization (Gerson, 1993).

2.6 Capacity management, Service Quality and Customer Satisfaction

The causal link between capacity management and service quality and which of this construct directly impacts on the satisfaction of customers is yet to elicit sufficient interest in operations because researchers look at the concept from different perspectives. However, the connection between service quality and customer satisfaction is increasingly generating interest although the operationalization of customer satisfaction has not been standardized. Cronin and Taylor (1992) definition and determination of customer satisfaction was from the view of how they felt towards an organization taking everything into consideration. Cronin and Taylor's approach which views customer from one perspective of overall satisfaction, fails to achieve the objective because just like service quality, customer satisfaction would be defined differently by different customers based on what they consider as the most important to them. The authors then introduced the concept of encounter satisfaction which details the constructs that determine customer satisfaction during his or her interaction with the service provider. Service encounter defines the interaction between service user and service provider. Service quality is of value in order to determine user satisfaction.

Several studies that focus on the correlation between service quality dimensions and customer satisfaction have been carried out. Dahiyat, Akroush and Abu-Lail (2011), Samen, Akroush and Abu-Lail (2013) and Ladhari (2009), all claimed that service quality

precedes customer satisfaction. Wang and Shieh (2006) found that tangibility, reliability, assurance and empathy influenced the overall user satisfaction of a customer. No positive effect was found to exist between customer satisfaction and the quality of service. Different studies on the relationship between customer satisfaction and service quality dimensions give different results. Jamal and Naser (2003) and Baumann, Burton and Kehr (2007) in their studies failed to find any significant relationship between customer satisfaction and tangible aspects of service environment which is contrary to the findings of the study undertaken by Dabholkar, Thorpe and Rentz (1996) which established that the customer's perspective of service quality was influenced a lot by the tangible aspects of it. Agrawal and Gupta (2016) in their study on public and private sector banks in India established that the five service quality dimensions had a positively influenced customer satisfaction but Assurance was the most important factor to the bank customers. Fah and Kandasamy (2011) in their study on hotel guests in Malaysia established that all the service quality influenced the rate of satisfaction even though the most significant dimension was found to be that of tangibility. These results therefore show that customer satisfaction is achieved if a customer perceives that the firm offers services of high quality. It therefore becomes necessary to offer quality services in order to customers.

2.7 Empirical Studies

Ong'ondo (2013) conducted a study on how capacity management strategies affected the service quality in Safaricom limited retail outlets. The findings from the study showed that Safaricom limited had implemented various capacity management strategies though some aspects were in their initial stages and needed to be strengthened in order to optimize their effect on service quality. Wairimu (2014) in her study of how capacity management influenced service quality in petroleum distribution firms in Kenya, established that the capacity management strategy adopted by the firm can have a high impact on the perceived service quality. The study established that chase strategy is commonly used by firms in the petroleum distribution business.

Kawila (2014) on her research on the effect of capacity management on service delivery of commercial banks in Kenya established that the commercial banks adopted the shifting capacity strategy. The shifting capacity practices adopted included enhancement of employee capacity through offering staff training that will enable them to handle more than one task and therefore being able to be redeployed when the need arises, offering overtime services to the staff such as paying them at a premium in times when they work outside the normal working hours as well as providing transport services for the staff.

Adenso-Diaz et al. (2002) in their study to establish a model for managing capacity through establishment of minimum staff levels, tested it in an internal medicine unit in a hospital nursing department and in a hotel both based in Spain. Delphi methodology was used to ascertain the average time it takes to perform the different general nursing tasks and the frequency at which each task is performed with respect to the type of dependency of the sick person. In both studies, total quality functions were developed to come up with a lean staff required to oversee the work. In conclusion they argue that their model can be applied in diverse service sectors where workforce is flexible and staff are limited and diverse activities need to be done depending on what customer requires therefore requiring that enough capacity be allocated that ensures maximum quality perceived. The main problem identified in this study is that their model is limited to only one capacity type, staff.

Dabholkar, Shepherd and Thorpe (2000) in their findings stated that customer satisfaction is a strong intervener on the relationship between service quality and behavioural intentions. The data was collected systematically and randomly from 397 churches. A discriminant validity test on whether the service quality constructs and customer satisfaction constructs were unrelated confirmed that the service quality constructs were different from those of customer satisfaction.

Previous studies on service quality have conceptualized service quality in different industries, such as retail (Danaher & Mattson, 1994), banking (Oxman, 1992) hospitality (Wirtz & Johnson, 2003) and health care (White & Galbreith, 2000) and few on

manufacturing, such as steel and small engineering firms (Maclaren, McGowan & Hill, 1997). These studies came to a common conclusion that proper capacity management leads to a competitive advantage in the respective service industries studied.

2.8 Summary on Literature Review

In summary from the literature reviewed, showed that capacity management by operation managers determine the company will thrive or die. The literature also revealed that capacity and demand work and relate to one another in one way or the other. The review while delving on empirical studies on use of capacity management strategies and its effect on service quality shows that only a few studies have been undertaken so far in the area of capacity management, service quality and customer satisfaction in IT services specifically in Nairobi, Kenya. The study seeks to fill the gap on capacity management in IT companies in Kenya and its interrelationship with service quality and customer satisfaction.

2.9 Conceptual Framework

Figure 2.1 Provides information on how the variables interact as shown in the conceptual framework



From the above research model, the constructs can be hypothesized as follows:

Hypothesis 1

H_o1: Capacity management strategies positively and significantly influences service quality.

Hypothesis 2

H_o2: Service quality dimensions (Tangibles, Reliability, Responsiveness, Assurance and Empathy) positively and significantly influences overall customer satisfaction.

Hypothesis 3

H_o3: Capacity management positively and significantly influences customer satisfaction.

Hypothesis 4

H_o4: Service quality significantly influences the relationship between capacity management and customer satisfaction.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this chapter is to answer the objectives of the study through the various methodologies used to carry out the study. It comprises of the research design, target population, sample and sampling procedures, data collection instruments and procedures and methods of data analysis.

3.2 Research Design

The study used cross-sectional study design to establish the relationship between capacity management practices, service quality, customer satisfaction and the extent to which these variables interact. The study adopted a cross-sectional design because the researcher's objective was to identify the capacity management strategies adopted by IT service companies in Nairobi and how they interact with service quality to affect customer satisfaction, which concern a situation at one point in time. IT service organization and their customers were identified and data was collected from them to achieve the objective of the study.

3.3 Target Population

The population of study was the IT companies registered with the Kenya IT and Outsourcing Services (KITOs) organization as at September 2017 and whose headquarters are in Nairobi. KITOS is a Trade Association representing Kenyan Information Technology and IT enabled Services (IT & ITeS) members Kenya. There are 28 companies registered with KITOs (Appendix iii). The respondents representing the IT companies were project and delivery managers with extensive experience managing and delivering IT projects. This is because the Project managers and delivery managers are the ones responsible for decision making in regards to capacity issues. The main reason the study was restricted to Nairobi is because, there is considerable infrastructural differences between the different towns in Kenya. There is a considerable issue also on

whether or not sufficient response will be received if the study was to be extended to rest of the country.

3.4 Sample Design

The entire population of 28 IT companies registered with KITO was studied. The population consists of small, medium and large enterprises. Convenience sampling was employed to select the sample from the available population of customers. The convenience sampling was used because the total number of customers for each of the companies to be studied is difficult to ascertain. The respondents were purposefully and conveniently approached. The reason for using convenient sampling in this study was because we did not have all the customers available at the same time and it was not possible to contact every customer who may have been sampled. The shortcoming of convenient sampling is it is not representative and therefore will prevent generalization of results. The purposive sampling method was applied so as to take care of the shortcomings of convenience sampling. So although the customers were approached, not all of them were interviewed but only those who were in a position to provide reliable answers. The questionnaires were administered by email, face to face and phone interviews to the project managers/delivery managers of the 28 organizations studied and 3 questionnaires were distributed randomly among the customers of each IT service organization. Efforts were made to ensure that selected respondents were those capable of answering the questionnaires.

3.5 Data Collection

The study used primary data in order to achieve its objectives. The research instrument used to collect primary data was the questionnaire. The questionnaire was developed based on research questions and the framework. The purpose of the study was presented at the beginning of the questionnaire to help the respondents gain a better understanding about the study. There were four sections for the questionnaire. The first section contained the demographic details of the organization. The second section focused on the strategies used by IT service companies in Kenya to manage their capacity. The third section looked at the relationship between the variables of study. These variables were

measured with 5-point Likert-type. The fourth section was an open ended question to get the respondent to give their opinion about the challenges faced by IT service companies in Kenya in managing their capacity. Primary data source was used for the achievement of the objectives of the study.

3.6 Data Analysis

The Baron and Kenny (1981) approach was used. Four regression analyses were conducted and significance of the coefficients examined for each of the steps. Customer satisfaction is represented by Y, service quality by Z and capacity management by X. The approach utilizes four steps. The four steps are as follows;

	Step	Analysis
Step1	$Y = B_0 + B_1X + e$	Simple regression analysis with capacity management influencing customer satisfaction
Step 2	$Z = B_0 + B_1X + e$	Simple regression analysis with capacity management influencing service quality
Step 3	$Y = B_0 + B_1Z + e$	Simple regression analysis with service quality influencing customer satisfaction
Step 4	$Y = B_0 + B_1X + B_2Z + e$	Multiple regression analysis with capacity management and service quality influencing customer satisfaction.

The purpose of steps 1-3 is to establish the relationship between the two variables with no variable controlled for. If one or more of the relationship are not consistent with the hypothesis the conclusion would be that mediation is not possible or likely. However, in the last step, partial mediation is supported if the first 3 hypothesis is met but the fourth is not. If all the steps are consistent with the hypothesis then it will be established that service quality is a mediator between capacity management and customer satisfaction.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter comprises of data analysis, findings and interpretation. The results are presented in tables and diagrams. The data is analyzed and arranged in themes that reflect the research objectives.

4.2 The Response Rate

The questionnaires were distributed to two categories of respondents namely; 28 project and delivery managers from the participating organizations and 84 customers of each of these organizations. A total of 23 questionnaires were properly filled and returned by project/delivery managers representing an overall successful response rate of 82.3% while 79 out of 84 customers responded giving a response rate of 94.04% .Based on Mugenda and Mugenda (2003) a response rate of 50% is considered to be adequate, 60% to be good and above 70% is rated very well. The response rate for this study was considered to be very good and hence the researcher proceeded for data analysis.

4.3 The Respondent's Profile

In this study the respondent's profile is described in terms of gender, their designation and the average annual income of their organization. The purpose for asking the respondents to state their characteristic was for classifying and comparing them thereafter. The study employs closed ended questionnaires to categorize the respondent's profile and their responses are analyzed using frequencies and percentage distributions.

4.3.1 Gender

The table below presents the sample characteristic of the respondents of IT service providers sample population.

Table 4.1 Gender of the Respondents

Gender	Frequency	Percent
Male	13	57.0
Female	10	43.0
Total	23	100.0

Source: Research Data

From the sample of 23 respondents, the findings indicate that male respondents make up 57% of the sample while female respondents make of 43%. This indicated that there is gender imbalance in the IT service sector. However, the gap between the genders is small giving an indication that female population is embracing the profession more.

4.3.2 Designation

The respondents were asked to indicate the post they hold in the organization in which they worked. The table below represents the findings.

Table 4.2 Designation of the Respondents

Gender	Frequency	Percent
Project Manager	16	69.6
Delivery manager	7	30.4
Total	23	100.0

Source: Research Data

The findings indicate that 69.6% of the respondents are project managers while 30.4% of the respondents are delivery managers showing indication that the roles are not equally distributed across the different service organizations of study.

4.3.3 Income

The respondents were asked to indicate the firms average levels of income .The responses are as indicated below:

Table 4.3 Firms Average Annual Income

Annual income	Frequency	Percent
Ksh 5m or under	9	39.1
Ksh 5m- 800m	6	60.9
Total	23	100.0

Source: Research Data

The findings indicate that 39.1% of the respondents ascertained that the firm earns Ksh 5 million or under annually which is an indication that they are small scale while most of the firms under study earn between Ksh 5 million and Ksh 800 million annually which is an indication that they are medium scale. This was an indication that most of the IT service firms registered with KITO fall under small and medium enterprises.

4.4 Extent to which various Capacity Management practices are adopted by IT service Companies

The first objective of the study was to establish the extent to which various capacity management practices were adopted by IT service companies in Kenya on a scale of 1-5 where 1= very low extent and 5= very great extent. The findings are given in the table 4.4 below:

Table 4.4 Extent to which Capacity Management strategies have been adopted by IT service companies

Capacity Management Practices	Mean	Std. Deviation
Level strategy	2.3612	0.4813
Minimum staffing strategy	2.5001	0.5120
Coping strategy	3.6522	0.9821
Chase strategy	3.8696	0.8245
Grand mean	3.0958	0.6999

Source: Research Data

The results indicate that level strategy and minimum staff level strategy were adopted to a low extent ($M = 2.3612$, $SD = 0.4813$) and ($M = 2.5001$, $SD = 0.5120$) while Chase strategy and coping strategy were highly adopted ($M = 3.8696$, $SD = 0.8245$) and ($M = 3.6522$, $SD = 0.9821$) respectively. Based on a scale of 1-5 used under this study, the

above results ascertained that the various organizations have adopted the capacity management strategies to various degrees. From these results it is ascertained that Chase demand strategy is adopted to a large extent by IT service firms to manage their capacity. Wairimu (2014) in her study on capacity management practices in Oil distribution companies in Nairobi Kenya revealed that Chase capacity management strategy was employed mostly by firms in oil distribution industry in Kenya.

4.5 Service quality dimension with the most impact on customer satisfaction

The respondents were asked to indicate the extent to which individual service quality dimensions had an influence on customer satisfaction. The grand mean for all the individual statements was calculated. A scale of 1-5 was used under this study, where 1 = Not important and 5 = Very important. The table 4.5 below shows the findings.

Table 4.5 Impact of Individual Service Quality Dimensions on customer satisfaction

Service Quality Dimensions	Mean	Std. Deviation
Empathy	3.6833	0.6311
Tangibility	3.7225	0.8267
Reliability	3.7733	0.6546
Responsiveness	3.8300	0.8340
Assurance	4.0873	0.9148

Source: Research Data

The findings contained in the Table 4.5 above shows that all service quality dimension are considered important by the IT service customers as indicated by a mean above 3. The most important service quality dimension in IT service is Assurance, (M = 4.0873, SD = 0.9148). Responsiveness was the next most important service quality dimension, (M = 4.0873, SD = 0.9148). Tangibility and reliability is moderately important, (M = 3.7225, SD = 0.8267) and (M = 3.7733, SD = 0.6546). The least important quality dimension in IT services is Empathy, (M = 3.6833,SD = 0.6311).This means that the customers are in general happy with the operating hours services were individualized and the customers receive individualized attention from the IT service provider.

These results are consistent with the results from the studies conducted by Agrawal and Gupta (2016) who established that Assurance was the most important aspect of service quality which had an impact of customer satisfaction. This also was in agreement with the study by Fah and Kandasamy (2011) of hotel guests in Malaysia established that all five service quality dimensions influenced satisfaction but differed in the aspect of the most important dimension. Their study identified Tangibility as more important dimension. The difference could be as a result of the different contexts of study one being in IT services and the other being Hotel industry.

4.5.1 Predictors that influence Customer satisfaction

The service quality predictors of customer satisfaction are arranged in an ascending order according to their strength.

4.5.1.1 Assurance

The respondents' score on the most important factor of Empathy in IT service are given in the table:

Table 4.6 Influence of Assurance on customer satisfaction

Assurance Statements	Mean	Std. Deviation
The employee behaviour instills confidence in the customers	3.8683	0.8897
The employees make customers feel safe in their transaction	4.0714	0.9979
The support staff have the required skills to resolve problems and answer questions	4.1879	0.8637
The employees are consistently courteous to the customers	4.2217	0.9077
Grand mean	4.0873	0.9148

Source: Research Data

The results indicate that the different statements were important to the customers as indicated by the high mean values, (M = 4.0714, SD = 0.9979), (M = 4.2217, SD = 0.9077), (M = 4.1879, SD = 0.8637) and (M = 3.8683, SD = 0.8897). The lowest score to the variable of Assurance was about employees instilling confidence in their customers. The IT service organizations should therefore ensure that they consistently monitor and reinforce preferred behaviour in their employee in order to increase the confidence of their customers in them. These findings are in line with the findings by Jongpae and

Santhiti Treetipbut (2017) in their study of banks in Bangkok where the most important factor was the courteousness of the employee and the lowest was the employee instilling confidence on their customers.

4.5.1.2 Responsiveness

The respondents were asked to what extent they agreed with statements on the influence of Responsiveness dimension of service quality on the overall customer satisfaction. The table below represents the findings:

Table 4.7 Influence of Responsiveness on customer satisfaction

Responsiveness Statements	Mean	Std. Deviation
Employees give customers an exact when services will be performed	3.52	0.7703
Employees are happy and willing to serve customers	4.12	0.7810
The management are accessible, listen and provide prompt and honest responses to customers inquiries	3.64	0.9950
The employees are not too busy to respond to user requests	4.04	0.7895
Grand mean	3.83	0.8340

Source: Research Data

The results indicate that the statements ‘Employees are happy and willing to serve customers’ and ‘The employees are not too busy to respond to user requests ’ were important, (4.12,SD = 0.7810) and (4.04,SD = 0.7895) while the statements on the exact time when services will be performed and ‘The accessibility of management, lending an ear to them and providing prompt and honest responses to customers’ inquiries’ were fairly important, (M=3.5200,SD = 0.7703) and (M = 3.6400,SD = 0.9950) respectively. The least score was the statement ‘The employees show sincere interest in solving customers’ concern’, (M=3.6800, SD = .78951).The lowest score was for the statement regarding the time frame within which the service would be performed. The suggestion is for the employees of the IT service organization to improve on how they communicate to their customers and to try and provide a time frame within which the service would be performed. This can be done by calculating the duration it takes to complete a task by recording the time it takes to complete it every time it occurs.

These findings agree with the findings by Jongpae and Santhiti Treetipbut (2017) in their study of banks in Bangkok where they identified the statement ‘Employees give customers exact time when services will be performed’ to be the one with the least score and also the most important factor in Responsiveness.

4.5.1.3 Reliability

The respondents were asked to what extent they agreed with statements on the influence of Reliability on customer satisfaction. The table 4.8 below represents the findings:

Table 4.8 Influence of Reliability on customer satisfaction

Reliability Statements	Mean	Std. Deviation
The employees show sincere interest in solving customers’ concern	3.6800	0.6904
The organization is able to perform the service right first time	3.7600	0.6377
When the organization promises to deliver within a given time, it does so	3.8800	0.6357
Grand mean	3.7733	0.6546

Source: Research Data

The results indicate that all the three statements depicting reliability are found to be fairly important, (M=3.8800, SD = .6357), (M=3.7600, SD = .63770) and M=3.6800, SD = .69041. The least score was the statement ‘The employees show sincere interest in solving customers’ concern’, (M=3.6800, SD = 0.6904).

Therefore the suggestion is for the IT service organization is to encourage their employee to improve their attitude towards addressing the concerns of their customers given the fact that their interest in solving customers’ concern scores the lowest. The employees need to be enthusiastic in their work. This is contrary to the study by Jongpae and Santhiti Treetipbut (2017) in their study of banks in Bangkok where they identified the statement ‘When the organization promises to deliver within a given time, it does so’ to be the one with the least score. The difference in the findings could be due to the different contexts of study.

4.5.1.4 Tangibility

The respondents were asked the most important factor in Tangibility dimension. The table below represents the findings:

Table 4.9 Influence of Tangibility on customer satisfaction

Tangibility Statements	Mean	Std. Deviation
The material associated with the service for example training manuals are visually appealing	3.56	0.7595
The company has visually appealing physical facilities	3.63	0.7613
The company uses modern and appropriate hardware and software	3.64	0.9950
The employees are well dressed and neat in appearance	4.06	0.7910
Grand mean	3.73	0.8267

Source: Research Data

The results indicate that the different statements were had varying degrees of importance. The statements ‘The company has visually appealing physical facilities describing tangibility’, ‘The company uses modern and appropriate hardware and software’ and ‘The material associated with the service for example training manuals are visually appealing’ are considered fairly important, ($M=3.63, SD = 0.7613$), ($M=3.64, SD = 0.9950$) and ($M=3.56, SD = 0.7595$) respectively while the statement ‘The employees are well dressed and neat in appearance’ was considered important, ($4.06, SD = 0.7910$). The least score was the statement ‘The material associated with the service for example training manuals are visually appealing. This means that the IT service organizations need to improve on the legibility, design of the training materials, instruction manual and make the training material easy to understand.

The results also show that the customers consider the appearance of the employees as their most important factors. These findings tally with the findings by Jongpae and Santhiti Treetipbut (2017) in their study of banks in Bangkok where the visual appeal of the bank physical facilities was considered to be the most important.

4.5.1.5 Empathy

The respondents were asked to state the importance of the factor of Assurance dimension of service quality. The table below represents the findings:

Table 4.10 Influence of Empathy on overall customer satisfaction

Empathy Statements	Mean	Std. Deviation
The operating hours are convenient to all customers	3.4076	0.6655
The employees give customers individualized attention	3.5856	0.6854
Services are adjusted to suit individual customer needs	3.7600	0.6377
The employees are dedicated to ethics and promote ethical behaviour in their place of work	3.9800	0.5356
Grand mean	3.6833	0.6311

Source: Research Data

The results indicate that the different statements carried different weights as per the customers as indicated in the table 4.10 above. The statements ‘The employees are consistently courteous to the customers’, ‘The employees give customers individual attention and promote ethical behaviour in their place of work’ and ‘Services are adjusted to suit individual customer needs’ are considered important, ($M = 3.9800, SD = 0.5356$), ($M=3.5856, SD = 0.6854$) and ($3.7600, SD = 0.6377$) respectively while the statement ‘The operating hours are convenient to all customers’ is considered fairly important, ($M = 3.4076, SD = 0.6655$). It therefore means that the IT service organization need to work out a schedule that works for all their customers either by adjusting their working hours or by shifts.

These findings were contrary to Jongpae and Santhiti Treetipbut (2017) study of banks in Bangkok where the visual appeal of the bank physical facilities was considered to be the most important. The difference could be a result of the different service context.

4.6 Capacity Management, Service Quality and Customer satisfaction

The conceptual framework is broken in two parts; the first part represents the relationship between capacity management and service quality and the second part the relationship between service quality and customer satisfaction. To determine the relationship between capacity management and service quality regression analyses was carried out.

4.6.1 Capacity Management and Service Quality

Regression analysis was conducted on capacity management practices and service quality in order to validate the model and the results are shown on the table 4.11 below.

Table 4.11 Regression Analysis Results: Model Fitness

Model	R	R Square	Adjusted Square	R Std. Error Estimate	Sig. F Change
1	.778 ^a	.605	.517	.57321	0.002

Source: Research Data

The results of the regression analysis depicted that the capacity management practices have an influence on service quality with a strength of 60.5% ($R^2 = .605$, adjusted $R^2 = .517$, $p = 0.002$). It also means that all the independent variable accounted for the 60.5% of the variance in service quality which indicate a good model as per the fitness test.

The other 39.5 % of the service quality in IT firms in Kenya is influenced by other variables which are not included in this model. Besides the significance level is at 0.02 which is less than the critical value of 0.05 an indication that this model is statistically significant at 95% confidence level. These findings agree with the findings of Armistead and Clark (1991) who stated that capacity management quality management and resource productivity significantly impact each other.

4.6.2 Analysis of Variance: ANOVA

The table below represents results of the analysis of variance of the effect of capacity management practices on service quality in IT service companies in Kenya.

Table 4.12 ANOVA^a

Source	Sum of Squares	Df	Mean Square	F	Sig.
Regression	9.042	4	2.261	6.88	.002b
Residual	5.914	18	0.329		
Total	14.957	22			

Source: Research Data

Analysis of variance established that capacity management strategy adopted significantly influenced service quality, $F(4, 18) = 6.88$, $P = 0.002$. The findings above indicates that the model was significant on the basis of the p-value of 0.002 which was lower than the critical value of 0.05 hence the model was statistically significant at 95% confidence level.

4.6.3 Significance of the Regression Coefficients

The result of the regression coefficients are as shown in table 4.13

Table 4.13 Multiple Regression Analysis Results: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.735	1.293		2.115	0.049
Level strategy	0.438	0.168	0.388	2.61	0.018
Chase strategy	0.662	0.152	0.654	4.361	0.000
Coping strategy	0.061	0.131	0.072	1.465	0.647
Minimum staffing strategy	0.565	0.157	0.326	3.646	0.034

Source: Research Data

The findings reveal that the Level strategy, Chase strategy and Minimum staffing strategy have a positive and significant effect on service quality with, $t = 2.610$ and $P < 0.05$, $t = 4.361$ and $P < 0.05$ and $t = 3.646$ and $P < 0.05$ respectively. However Coping strategy has a positive influence on service quality, $t = 2.610$ but is not statistically significant since $P > 0.05$.

These findings show that capacity management practices positively impact on service quality an indication that adoption of capacity management strategies by IT service companies in Nairobi results in the increase in the standards of service quality which is a measure of performance. This is in line with the previous studies by different researchers who conceptualized service quality in different industries, such as retail (Danaher & Mattson, 1994), banking (Oxman, 1992) hospitality (Wirtz & Johnson, 2003) and health care (White & Galbreith, 2000) and few on manufacturing, such as steel and small engineering firms (Maclaren, McGowan & Hill 1997) and came to a common conclusion that proper capacity management leads to a competitive advantage in the respective service industries studied.

4.7 Service Quality and Customer Satisfaction

The hypotheses that service quality dimensions (Reliability, Responsiveness, Tangibles, Assurance and Empathy) influenced overall customer satisfaction in IT service companies in Nairobi was observed to be true as the multiple regression analysis depicted that the combination of all the dimensions of service quality influenced overall customer satisfaction with a strength of 61 percent ($R^2 = .610$, adjusted $R^2 = .495$, $p = .004$) as shown in table 4.14.

Table 4.14 Multiple Regression Analysis Results: Model Fitness

Model	R	R Square	Adjusted Square	R Std.Error Estimate	Sig. F Change
	.781 ^a	.610	.495	.58603	0.004

Source: Research Data

4.7.1 Analysis of Variance: ANOVA

The table below represents results of the analysis of variance of the effect of service quality on customer satisfaction of IT service companies in Kenya.

Table 4.15 ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.118	5	1.824	5.310	.004 ^b
Residual	5.838	17	.343		
Total	14.957	22			

Source: Research Data

Analysis of variance was conducted to establish the significance of the regression model, the findings establish that service quality influenced customer satisfaction, $F(5, 17) = 5.31, P = .004$. The findings above indicate that the model was significant because the p-value of 0.004 is lower than the critical value of 0.05. From the findings it is concluded that service quality has positive impact on customer satisfaction. The results from this study therefore agree with the findings carried out by Dahiyat, Akroush and Abu-Lail (2011), Samen, Akroush and Abu-Lail (2013) and Ladhari (2009), who all claimed that service quality precedes customer satisfaction.

4.7.2 Significance of the Regression Coefficients

Multiple Regression Analysis was employed to determine the effect of service quality dimension on customer satisfaction and the below table presents the result.

Table 4.16 Multiple Regression Analysis Results: Coefficients

Model	Unstandardized Coefficients		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.331	1.832		1.819	.087
Reliability	.404	.186	.358	2.171	.044
Responsiveness	.039	.176	.039	.221	.828
Tangibility	.054	.134	.065	.405	.690
Assurance	.651	.157	.644	4.154	.001
Empathy	.118	.251	.084	.470	.644

Source: Research Data

The beta values were the weight associated with the regression equation. According to the beta weight, the regression equation was as follows: The results shows that Reliability and Assurance have a positive and significant effect, $t=2.171$, $P=.044$ and $t=4.154$, $P=.001$ respectively while Responsiveness, Tangibility and Empathy have a positive influence on customer satisfaction but are not significant, $t=.221$, $P=.828$, $t=.405$, $P=.690$ and $t=.470$, $P=.644$.

4.8 Capacity Management, Service Quality and Customer Satisfaction

The hierarchical regression analysis was performed on the basis of the four conditions by Baron and Kenny (1981) and the results are presented in Table 4.17 whereby the first condition, capacity management has a significant impact on service quality was tested and the condition was met. The second condition service quality has a significant impact on customer satisfaction show that mediating variable of service quality has a positive influence on customer satisfaction; the third condition show impact of capacity management on customer satisfaction when service quality is controlled for has a significant influence on customer satisfaction and the fourth condition testing the impact of capacity management when the mediator is introduced shows that the influence of service quality reduces, hence the Baron and Kenny mediator effect was met. It can then be conclude that service quality fully mediates the relationship between capacity management and customer satisfaction.

Table 4.17 Multiple Regression Analysis Results: Coefficients

Independent Variables	Dependent Variables								
	Service Quality			Customer Satisfaction					
	B	t	Sig.	B	t	Sig.	B	t	Sig.
(Constant)	2.735	2.115	0.049				0.042	1.829	0.860
Level strategy	0.438	2.61	0.018				0.151	2.923	0.064
Chase strategy	0.662	4.361	0.000				0.246	5.022	0.000
Coping strategy	0.061	1.465	0.647				0.212	3.519	0.084
Minimum staffing strategy	0.565	3.646	0.034				0.281	1.667	0.001
(Constant)				3.331	1.819	0.087	2.735	1.711	0.074
Reliability				0.404	2.171	0.044	0.377	1.192	0.036
Responsiveness				0.039	0.221	0.828	0.026	0.187	0.214
Tangibility				0.054	0.405	0.69	0.031	0.361	0.029
Assurance				0.651	4.154	0.001	0.466	3.465	0.359
Empathy				0.118	0.47	0.644	0.057	0.115	0.034
R ²	0.605			0.61			0.6113		
Adjusted R ²	0.517			0.495			0.5913		
Sig.F-Change	0.002			0.004			0.004		

Source: Research Data**4.9 Challenges affecting implementation of capacity management strategies**

Researcher sought to find out the challenges affecting implementation of capacity management strategies in IT service companies in Nairobi Kenya through an open ended question. Respondents were required to list the challenges and were analyzed as on table below.

Table 4.18 Challenges in capacity management

Challenges	Frequency	Percent
Poor leadership and management	7	10.6
Lack of management support	12	18.2
Lack of qualified Staff	10	15.2
Resistance to change	6	9.1
Lack of communication in organization	5	7.5
cost implementation	18	27.3
Lack of Processes	8	12.1
Total	66	100.0

Source Researcher

From the table above, the study identifies various challenges an indication that firms face different challenges during the implementation of capacity management strategies. The study finds out that the high cost of implementation; lack of management support, insufficient trainings and lack of processes are frequently encountered challenges during implementation of different capacity management strategies by IT service organizations, (27.3%, 18.2%, 15.2% and 12.2%).

Other challenges that were noted were poor leadership, resistance to change and poor communication within the departments or within the organization thus the stakeholders fail to understand what is required of them to make implementation successful and lack of measures performance. This therefore means that for IT service companies in Kenya to successfully manage their capacity and improve their performance, they must first put in place measures to address the listed challenges.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter addressed the summary of the findings, the conclusions and the recommendations. The study objectives was to ascertain the extent to which capacity management strategies had been adopted in IT service companies in Nairobi, to establish the role of service quality in the relationship between capacity management strategies and customer satisfaction of IT service companies in Nairobi Kenya and the challenges faced by IT service companies in Kenya in the adoption of capacity management strategies.

5.2 Summary of Findings

The study established that the IT service companies had processes in place to manage their capacity. The first objective was to establish the most adopted capacity management strategy by IT service companies in Nairobi Kenya. There results showed the use of the different strategies to varying degrees. However, the result show that Chase strategy was adopted to a large extent by IT service providers to manage their capacity which was the highest followed by coping strategy. Minimum staffing strategy was moderately used by IT service companies while the level strategy was the least used. This means that most IT companies use contractors and part time workers as well as leasing equipment in to manage their capacity when there is a high demand for their services.

5.2.1 Capacity Management practices Service quality and Customer satisfaction

The second objective was to establish the extent to which IT service organizations have adopted the various strategies of managing capacity. The results established that level strategy and minimum staffing levels were adopted to a low extent while Chase strategy and coping strategy were highly adopted. The first part of the framework focused on the effect of capacity management strategies on service quality. The results of the study show that the capacity management strategy adopted by the IT service company greatly influences service quality.

The results show that the influence on service quality by capacity management strategies was significant for level, chase and minimum staffing levels but not significant for coping strategy. Chase capacity management strategy was the strongest strategy that had an influence on customer satisfaction. This means that although the use of contract or temporary employees or leasing space or equipment, shifts provided most flexible and fast way of resolving capacity issues, the organization has to pay very close attention on how they implement these strategies as any mistake made would have a high likelihood that it would impact service quality in a major way. This could be through unqualified contract or temporary employees hired or obsolete equipment leased and many more.

The second part of the framework was to establish the impact service quality on customer satisfaction. The results from the study shows that the Service quality dimensions namely; Assurance, Empathy, Responsiveness, Tangibility and reliability had a positive influence on customer satisfaction. The results show that Assurance was the strongest factor on service quality. The highest score under assurance went to the fact that the employees were consistently courteous to the customers, while the least score was to the fact that the employee behaviour instilled confidence in the customers. This therefore means that the IT service organization needs to consistently monitor and reinforce preferred behaviour in their employee in order to increase the confidence of their customers in them. This was followed by reliability, tangibility, responsiveness and the least was empathy. Under reliability the highest score went to the ability of the IT service organizations to deliver within the given time but that they needed to show enthusiasm to resolve with issues as this had the lowest score. The results also showed that service quality mediated between capacity management and customer satisfaction meaning that if capacity management was not managed well there would be an impact in service quality which would then impact customer satisfaction.

5.2.2 Challenges in implementing capacity management practices

The last objective of this study was to ascertain the challenges that affect the implementation of capacity management strategies by IT service companies in Kenya. The study findings indicate high costs of adopting capacity management strategies, lack

of top management support, lack of clear goals in capacity management and inadequate resources in the capacity management are the major challenges facing IT service organizations in Nairobi Kenya. The organizations therefore need to understand the critical role that capacity management plays in the success of a business through reduced costs and improved services and give priority to it and influencing the senior leaders in the organization to buy into it. The organization should also put in place mechanisms to establish the capacity requirements to meet service level agreements of their customers and minimize capacity related incidences.

5.3 Conclusion

Effectiveness in operations of a firm is highly attributed to adoption of capacity management practices. IT service organizations in Nairobi Kenya have become very essential in the day to day life of the Kenyan Population based on the fact that they have specialized services, fast internet service in the current digitalized economy. In conclusion, the study was aimed at establishing the extent to which capacity management strategies have been adopted, how capacity management affects service quality and the impact on customer satisfaction as well as the challenges faced in the implementation of capacity management strategies in IT service companies in Kenya in Kenya.

The findings indicate that to a large extent, all the capacity management strategies had been adopted in IT service companies in Kenya. This was indicated by positive mean values above three indications that all the practices had been implemented to a large extent. The findings from the regression analysis indicated that capacity management strategies and service quality to a significant extent have effect on customer satisfaction in the IT service companies in Kenya in Kenya. The results of the study ascertained a positive correlation between the various capacity management strategies and service quality of IT service companies in Kenya in Nairobi.

The study established that the IT service organizations faced various challenges while implementing strategies to manage capacity ranging from, lack of management support, unqualified staff, lack of communication and processes not in place. The findings also

indicate that the customers were generally satisfied with the services from their IT service providers.

5.4 Recommendations to Policy and Practice

From these study findings, it is established that despite the fact that the IT service companies in Kenya were facing very many challenges in implementing the capacity management practices, all of the IT service organizations studied in Nairobi Kenya had processes in place to manage their capacity. The study recommends that organization employees from operation management need to be trained further on the various capacity management strategies and the need for the same towards boosting overall firm performance. In addition, senior managers of various IT service companies in Kenya should be the ones to lead in these initiatives since the changes would be more likely implemented when senior management shows support. It is also imperative that change management should be carried out in order to ensure that there is minimal resistance to change by the employees of the IT service organizations. The IT service companies in Kenya should therefore invest resources on training of employees so as to boost their performance through service quality.

According to this research service quality is a very important antecedent to customer satisfaction. Therefore the IT service companies in Kenya should focus on improving and maintaining the standards of quality in their services in order to ensure that the customers are content. They should also look at the pricing of their service such that the customer should be able to gain value for their prices among the service quality dimension Responsiveness receive the least mean although the dimension was confirmed to be influencing customer satisfaction. The IT service companies in Kenya should therefore focus on improving their responsiveness towards their customer by attending to the issues of their customers as soon as they arise and if not communicate to them on how soon they can be closed.

5.5 Limitations of the Study

The study findings were applicable to the IT setting, specifically those in Nairobi only and registered with KITO's. Therefore, the findings cannot be used as representative of all others contexts. An inadequate resource such as finances was a challenge in this study leading to non-exhaustive exposition of majority of the capacity management strategies, service quality applied by IT service companies in Kenya. Similarly, there was constrained time resource. Reluctance of some respondents in giving out information on the study was also a challenge in the study due to the rules and regulations of the firms however the researcher communicated to the respondents that the study was to be used for study purposes only.

Some of the respondents had very tight working schedules and were therefore not available for the interview. However, the researcher tried as much as possible and got an above average response rate which was considered an adequate representative sample of the target population. Besides tight work schedules, some of the respondents did not accept the questionnaires thus making it a challenge to effectively carry out the study.

5.6 Suggestions for Further Research

The study sought to determine the capacity management strategies used in IT service companies in Kenya in Kenya as well as the relationship between capacity management strategies, service quality and customer satisfaction. Further studies need to be carried out on other sectors other than IT service companies in Nairobi Kenya. In addition, future studies should consider other service quality dimensions and capacity management strategies with an aim of establishing their effect on customer satisfaction. This therefore means that a different industry apart from IT service companies in Kenya should be considered in future studies.

REFERENCES

- Adenso-Díaz, B., González-Torre, P., & García, V. (2002). A capacity management model in service industries. *International Journal of Service Industry Management*, 13(3), 286-302. Doi: 10.1108/09564230210431983
- Agrawal, S., Mittal, M., & Gupta, R. (2016). Service Quality in Public and Private Sector Banks of India. *International Journal on Customer Relations*, 4(1). doi:10.21863/ijcr/2016.4.1.016
- Akan, P. (1995). Dimensions of service quality: a study in Istanbul. *Managing Service Quality*, 5(6): 39-43.
- Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer Satisfaction, Market Share, and Profitability: Findings from Sweden. *Journal of Marketing*, 58(3), 53. Doi: 10.2307/1252310
- Armistead, C. G. and Clark, G. R. (1991). *Capacity Management in Services and the Influence on Quality and Productivity Performance*, Cranfield School of management working paper 56/91.
- Armistead, C. G. and Clark, G. R. (1991). *Capacity Management in Services and the Influence on Quality and Productivity Performance*, Cranfield School of management working paper 56/91.
- Armistead, C., & Clark, G. (1994). The “Coping” capacity management strategy in services and the influence on quality performance. *International Journal of Service Industry Management*, 5(2), 5-22. Doi: 10.1108/09564239410057654
- Bairi, J., Manohar, B. M., & Kundu, G. K. (2012). Capacity and availability management by quantitative project management in the IT service industry. *Asian Journal on Quality*, 13(2), 163-176. Doi: 10.1108/15982681211265472
- Bhattacharjee, A., Premkumar, G., (2004). Understanding changes in belief and attitude toward information technology usage: a theoretical model and longitudinal test. *MIS Quarterly* 28 (2), 229–254.
- Boulding, W., Staelin, R., Kalra, A. & Zeithaml, V. A. (1993). A dynamic process model of service quality: From expectations to behavioural intentions. *Journal of marketing Research*. 30, 7-27
- Choi, T. Y., & Chu, R. (2001). Determinants of hotel guests' satisfaction and repeat patronage in the Hong Kong hotel industry. *International Journal of Hospitality Management*, 20: 277-297.

- Dabholkar, P. A., Shepherd, C. D., & Thorpe, D. I. (2000). A comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing*, 76(2), 139-173.
- Dabholkar, P. A., Thorpe, D. I., & Rentz, J. O. (1996). A measure of service quality for retail stores: Scale development and validation. *Journal of the Academy of Marketing Science*, 24(1), 3-16. Doi: 10.1007/bf02893933
- Dahiyat, S. E., Akroush, M. N., & Lail, B. N. (2011). An integrated model of perceived service quality and customer loyalty: an empirical examination of the mediation effects of customer satisfaction and customer trust. *International Journal of Services and Operations Management*, 9(4), 453. doi:10.1504/ijksom.2011.041242
- Delgado-Alvarez, C. A., Van Ackere, A., Larsen, E. R., & Arango-Aramburo, S. (2017). Managing capacity at a service facility: An experimental approach. *European Journal of Operational Research*, 259(1), 216-228. doi:10.1016/j.ejor.2016.09.056
- Izogo, E. E., & Ogba, I. (2015). Service quality, customer satisfaction and loyalty in automobile repair services sector. *International Journal of Quality & Reliability Management*, 32(3), 250-269. Doi: 10.1108/ijqrm-05-2013-0075
- Fotiadis, A. K. & Vassiliadis, C. A. (2013). The effects of a transfer to new premises on patients' perceptions of service quality in a general hospital in Greece. *Total Quality Management & Business Excellence*, 24(9-10), 1022-1034. doi:10.1080/14783363.2013.799328
- Gerson R. F. (1993). *Measuring customer satisfaction*, Crisp Publication, Inc., Menlo Park, California.
- Halstead, D., Hartman, D., and Schmidt, S.L. (1994). 'Multisource Effects on the Satisfaction Formation Process', *Journal of the Academy of Marketing Science*, Vol. 22 (spring), pp. 114 –129.
- Hart, C.W.L., Heskett, J.L. & Sasser, W.E. (1990), "The Profitable art of service recovery", *Harvard Business Review*, July-August.
- Heskett J. L, Sasser WE & Schlesinger LA, 1997, *The Service Profit Chain*, The FreePress, New York
- Ives, B., Olson, M.H., & Baroudi, J.J. (1983). The Measurement of User Information Satisfaction. *Communications of the ACM*, 26(10), 785-793.

- Jongpae, P. and Santhiti Treetipbut, D. (2017). The Influence of Service Quality on Overall Customer Satisfaction and the Influence of Overall Customer Satisfaction on Customer Loyalty in Retail Banking in Bangkok. *Odijournal.au.edu*.
<http://www.odijournal.au.edu/index.php/yie/article/view/105>
- Knutson, B. (1988). Frequent travellers: making them happy and bringing them back. *The Cornell Hotel and Restaurant Administration Quarterly*, 29(1): 83-87.
- Kotler, P., Siew M., Swee H., & Chin, T. (1996), *Marketing Management: An Asian Perspective Singapore*": Prentice Hall.
- Lovelock, C.H. (1984), *Services Marketing*, Prentice Hall, Englewood Cliffs, NJ
- Mattila A. & O'Neill J.W. (2003). 'Relationships between Hotel Room Pricing, Occupancy, and Guest Satisfaction: A Longitudinal Case of a Midscale Hotel in the United States', *Journal of Hospitality & Tourism Research*, 27 (3), pp. 328-341, Sage Publications
- Nazimoglu, O., & Ozsen, Y. (2010). 'Analysis of Risk dynamics in Information Technology service delivery. *Journal of Enterprise Information Management* 23(3) 350-364 <http://doi.org/10.1108/17410391011036102>
- Oliver, R. L. (1977). Effect of expectation and disconfirmation on post exposure product evaluations: An alternative interpretation. *Journal of Applied Psychology*, 62, 480-486.
- Oliver, R. L. (1993). A conceptual model of service quality and service satisfaction: Compatible goals, different concepts. In T. A. Swartz. D. E. Bowen, & S. W. Brown (Ms.) *Advances in services marketing and management* (Vol. 2, pp. 65-85). Greenwich, CT. JAI.
- Ong'ondo, E. W. (2013). Effect of capacity management strategies On Service quality in Safaricom. Unpublished MBA Project. University of Nairobi.
- Onyango (2016) Capacity management and service industry performance, a case of sunset hotel-Kisumu. Unpublished MBA Project. University of Nairobi.
- Peyton, R., Pitts, S., Kamery, R.H., (2003) - "Consumer Satisfaction/Dissatisfaction (CS/D): A Review of the Literature Prior to the 1990s", *Proceedings of the Academy of Organizational Culture, Communication and Conflict*. Vol. 7(2), p.42.
- Pitt, L. F., Watson, R. T., & Kavan, C. B. (1995). Service Quality: A measure of information systems effectiveness. *MIS Quarterly*, 19(2), 173. doi: 10.2307/249687

- Reichheld FF, 1996. *The Loyalty Effect*, Harvard Business School Press, Boston, Massachusetts
- Samen, A. A., Akroush, M. N., & Abu-Lail, B. N. (2013). Mobile SERVQUAL. *International Journal of Quality & Reliability Management*, 30(4), 403-425. doi: 10.1108/02656711311308394
- Voss, C., Roth, A.V., Rosenzweig, E.D., Blackmon, K. and Chase, R.B. (2004a), “A tale of two countries’ conservatism, service quality, and feedback on customer satisfaction”, *Journal of Service Research*, Vol. 6 No. 3, pp. 212-23.
- Wairimu, (2014) “Capacity management strategies and service quality in petroleum distribution firms in Kenya”. Unpublished MBA Project. University of Nairobi.
- Wang, I.M. and Shieh, C.J. (2006), “The relationship between service quality and customer satisfaction: the example of CJCUC library”, *Journal of Information and Optimization Sciences*, Vol. 27 No. 1, pp. 193-209.
- Wang, Y., Hing-Po, L. and Yang, Y. (2004), An integrated framework for service quality, customer value, satisfaction: Evidence from China's telecommunication industry. *Information Systems Frontiers*, 6(4), 325-340. doi:10.1023/b:isfi.0000046375.72726.67
- Zeithaml, V.A., Parasuraman, A. and Berry, L.L. (1990), *Delivering quality service: Balancing customer perceptions and expectations*, The Free Press, New York, NY.

APPENDICES

Appendix I: Questionnaire

The purpose of this questionnaire is to collect primary data on the relationship between capacity management strategies, service quality and customer satisfaction. Please take a few minutes to respond to the questions as truthfully as possible. The data collected is purely for academic purposes and therefore confidentiality will be observed.

SECTION A: DEMOGRAPHICS

1. Please indicate your gender:

Male Female

2. Please state your designation

Project Manager Delivery Manager

3. What is the average annual income: Ksh 5m or under Ksh 5m-
Kshs 800m Ksh 800m and above

PART A: CAPACITY MANAGEMENT ADOPTED BY IT SERVICE ORGANIZATION

1. Using a five point scale, please indicate the extent to which your organization has adopted the following capacity management strategies. Use **1-** Very low extent, **2-** Low extent, **3-**Moderate extent, **4-** Great extent, **5-** Very great extent

CAPACITY MANAGEMENT STRATEGIES	1	2	3	4	5
Level strategy the company maintains the same number of staff, materials or machines in a particular period					
Chase strategy The company changes the extent of resources by overtime, part-time employees, sub-contracting or leasing equipment and cross-training employees					

<p>Coping strategy</p> <p>There is more demand than can be managed with the available capacity and the company manages by controlling how the service quality fall when out of capacity to match demand</p>					
<p>Minimum staffing strategy</p> <p>The company has worked out a model to determine the right number of employee at the right place and time that provide minimum coverage</p>					

PART B: CAPACITY MANAGEMENT STRATEGIES AND SERVICE QUALITY

2. Indicate to what extent you agree that capacity management strategies have influenced the service quality in IT services. Rate using a scale of **1-5**, where: **1** strongly disagree, **2** Disagree, **3** neither agree nor disagree, **4** agree, **5** strongly agree

CAPACITY MANAGEMENT STRATEGIES	5	4	3	2	1
Level strategy					
Our IT services are highly customized					
Demand is relatively consistent and we are able to match it					
The requirements from customers are the same in all periods and standards of quality are maintained					
The company make decisions based on staffing an stock holding/leasing decision ensuring that operations are not affected					
Chase strategy					
The company matches demand by hiring or firing employee					
Altering or improving resources e.g. shifts ,overtime, cross training					
Use of external sources of capacity e.g. outsourcing					
Rent, Lease or Sharing required equipment					

Coping strategy				
Customers have information on what is possible and in times of high demand customers are persuaded to wait for services				
Customer service dimensions have been defined and are reliable				
The managers are aware of when service quality are being degraded and act upon it after the event				
The company understand the bottle-necks in its service delivery and can manage them				
Minimum staffing strategy				
The company has calculated the average number of activities per customer				
The company knows the required number of employees to attend to customers for each time period				
The company has established the time it takes to perform each task				
The employees of the company are multipurpose i.e. can perform any job requested by customer				

PART C: CHALLENGES

3. In your opinion what are the challenges faced by IT service providers in implementing capacity management strategies

Appendix II: Customer's questionnaire

The purpose of this questionnaire is to collect primary data on the relationship between capacity management strategies, service quality and customer satisfaction. Please take a few minutes to respond to the questions as truthfully as possible. The data collected is purely for academic purposes and therefore confidentiality will be observed.

PART C: CUSTOMER SATISFACTION

1. Indicate the level which you consider the following statements important to you.
Rate using a scale of **1-5**, where: **1** Not important, **2** Slightly important, **3** Fairly important, **4** Important, **5** Very important

SERVICE QUALITY	5	4	3	2	1
Reliability					
When the organization promises to deliver within a given time, it does so					
The IT services are always available as and when required by the customer					
The employees show sincere interest in solving customers' concern					
The organization I able to perform the service right first time					
Responsiveness					
employees are happy and willing to serve customers					
Employees tell customers exactly when services will be performed					
The management are accessible, listen and provide prompt and honest responses to customers inquiries					
The employees are not too busy to respond to user requests					
Tangibility					
The company has visually appealing physical facilities					
The company uses modern and appropriate hardware and software					

The employees are well dressed and neat in appearance					
The material associated with the service for example training manuals are visually appealing					
Assurance					
The support staff have the required skills to resolve problems and answer questions					
The employees make customers feel safe in their transaction					
The employee behavior instill confidence in the customers					
The employee are consistently courteous to the customers					
Empathy					
The employees give customers individual attention					
The employees are committed to ethics and promote ethical behavior in the work place					
Services are adjusted to suit individual customer needs					
The operating hour are convenient to all customers					

4. Below are statements describing Customer satisfaction, please indicated the level to which you agree with them in accordance to the following scale:1-Extremely Low, 2-Low, 3-Neutral, 4-Very High, 5-Extremely High

No.	Statement	1	2	3	4	5
1	Customers' overall satisfaction with the IT service provider					
2	Customers intention for renewal of their contract with their IT service provider					
3	Customers consideration of the image of their IT service provider for the renewal of their support contract					
4	Customers consideration of price for renewal of their IT services					
5	Customers consideration of Timeline of the service for renewal of their contract with IT service provider					

Appendix III: List of Companies Registered with KITOs

1. Adept Technologies
2. Attain Enterprise Solutions
3. Beninda.Com
4. Bunifu Technologies
5. Capture Solutions
6. Crystal Tech Solutions
7. DataScience LTD
8. Digital Vision East Africa
9. Digital Divide Data (DDD)
10. Foundation Support Services
11. Greenbell Communication LTD
12. Eighteen-O-Nine LTD
13. Empire Microsystems
14. Insynque Solutions
15. Netcom Information Systems
16. New edge Technologies
17. Pluspeople Kenya
18. Ramsa Ltd
19. Sabalink Technologies
20. Sapama.com
21. Sawasawa.com LIMITED
22. Shimba Technologies
23. Sunesis Consulting Ltd
24. Sycom Africa Limited
25. Synergy Informatics Limited
26. Systech LTD
27. Techno Brain LTD
28. WAVUH LTD

Appendix IV: Letter of Introduction



UNIVERSITY OF NAIROBI SCHOOL OF BUSINESS

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE...10.10.2017

TO WHOM IT MAY CONCERN

The bearer of this letterCHEP KAMOI.....SEMIFER.....

Registration No. D6163023/2011.....

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.



PATRICK NYABUTO
SENIOR ADMINISTRATIVE ASSISTANT
SCHOOL OF BUSINESS