

## SERVICE OPERATIONS DESIGN PRACTICES AND CUSTOMER SATISFACTION AMONG COMMERCIAL BANKS IN KENYA

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**ABSTRACT:** Services operation design practices among commercial banks have grown to contribute immensely to the performance of commercial banks of not only developed countries but also the developing countries. Over the last decade, the contribution of the performance of commercial banks is attributable to services operation design practices which has continued to grow in many countries and accounts for more than 60 percent of the world's output today. The main objective of this study was to determine the service operations design practices commonly used by Commercial Banks in Kenya and to establish the relationship between service operations design and customer satisfaction. The study population was 15 commercial banks in Kenya and the sample size was 60 employees from the selected banks. To achieve the research objective, primary data was used which was collected through a closed ended questionnaire. The data was then analyzed using SPSS version 20. The study established that all service operations design practices which are: Service Selection and Design, Selection and Design of the service delivery system, Capacity design, service facility location, service facility design and layout and service operations design in supply chain affects customer satisfaction at a score of more than 50% revealing a positive relationship between service operation design practices and customer satisfaction, from the regression analysis the study revealed a positive but insignificant relationship between service operation design practices and customer satisfaction among commercial banks in Kenya. The study further revealed that commercial banks in Kenya have adopted Service operation design practices. The study recommends that banks should pay more attention on the service operation design in supply chain since it had low score in customer satisfaction. Further the study recommends that in order to enhance service delivery in the Kenya Commercial Banks, all service operation design practices should be taken seriously by operations department and banks Managers so that the performance of the service to their clients is accomplished through seamless, flexible and efficient processes aiming at increased profitability, customer retention, acquiring new customers through referrals and overall excellent customer experience.

**Keywords:** Service Operations, Design Practices, Customer Satisfaction, Commercial Banks and Kenya.

### 1. INTRODUCTION

Services design practices among commercial banks have grown to contribute immensely to the performance of commercial banks of not only developed countries but also the developing countries. Over the last decades, the contribution of the performance of commercial banks is attributable to services operation design practices which has continued to grow in many countries. This account for more than 60 percent of the world's output today (Zomerdijk and Voss, 2010).

With the continuously tighter global market competition, it has become a necessity for most commercial banks to focus on their operations in order to increase on their profitability and gain market leadership (Svensson, 2006). Service operations design has thus become the main priority for these organizations to retain their market share and increase on their profitability. Ultimately, successful

operations management is the key to ensuring customer satisfaction by creating more value than the competition. According to [Saravanan and Rao \(2007\)](#), service quality is very important aspect especially in the service industry for the service to remain competitive and to this end there is no exception in banking sector which its main products its services and therefore the banks to compete in the market place, service quality remains to be a major competitive too.

According to [Goyal and Joshi \(2011\)](#), one aspect of ensuring service quality is mainly through the design of a service. Service design practices, addresses the aspect of how the service functioning is affecting the user and therefore aims at ensuring the service is desirable and usable by the customer. Generally, it's assumed that services which continually and consistently make customer happy are well designed and customers will always go for them. In such a case customer will become loyal customers and will even bring other customers for the same services which in return will increase the organizational profits and eventually result to the growth of such companies.

[Goyal and Joshi \(2011\)](#) defines service operation design as the process of planning and organizing people, communication, and material components of a service within responsive operations to improve service quality and the interaction between service provider and customers. In this context, the core of service design, termed design thinking, is not only a way to create effective and efficient solutions for organizations, but also to create value for customers through designing experience-centric services ([Zomerdijk and Voss, 2010](#)).

[Kalbach \(2016\)](#) defines service operation design as the activity of planning and organizing a business resource in order to improve employees experience as well as the customers. In this case the service design involves three components that are people; anyone who creates or uses the service for example employees, customers, etc. Second component is props this includes physical or digital artifacts and is needed to perform the service successfully for example, physical space which includes teller window, conference room, and social medial webpages. Last component is processes this involves procedures performed by either employees or customers thought a service for example, withdrawing money from an ATM, getting an issue resolved over support and so on.

Creating value for customers can only be achieved by incorporating customer demands into the service offering that puts the customer first and the service provider second ([Wetter-Edman, 2014](#)). [Andreassen et al. \(2016\)](#) explain the service design process should be comprised of three main aspects. First, identification of all participants in the process of enabling and using the service; second, understanding customers' demands and wants and linking this with the broader service system and context of use; third, representation of the service through the use of techniques that incorporate all ingredients of the service. This viewpoint is highly related to focusing on creating a mechanism which empowers employees too continuously respond innovatively to customer 'demands fluctuations and changes. In fact, [Bitner et al. \(2000\)](#) assert that majority of innovation opportunities are treasured in the customer contact stage; when customers are actually engaged with service provider trying to get their jobs done. Service operations design has six processes which include: Service selection and design, Selection and design of the service system, Capacity design/long –term capacity and demands decisions, Service facility location, Service facility design and layout and Service operations design in supply chains respectively. All this process work together for the service to be effective and efficient to the customers.

[Alexandris et al. \(2006\)](#) defined customer satisfaction as the degree to which a service or product of the organization meets customer expectation. Customer satisfaction does not only measure how happy the customer is with the product or service but also the willingness of the customer to do the business with that company again and overall experience of that organization.

Customer satisfaction can be measured by the following methods: customer's satisfaction score (CSAT) this method is used to determine how customers are satisfied with the services or the product of the goods, business or team. In this method customers are usually asked about their level of happiness regarding some aspects of the business then the answers are expressed in percentages and the great the percentage the higher the rate of satisfaction. The second method is Net promoter score (NPSC), this method measures how likely the customer will act as the referral for the company's product or service. It groups the customers into three categories that is Promoters: this are the customers who are happy about the company's service or product and are willing to share their experience with their friends, families as well as colleagues, passive these re customers who are satisfied but are not willing to bring their friends or families to the company. Detractors this are customers who are not satisfied with the product or services and may damage the company's brand and image. The last method is customer effort score (CEFSC) this method involves all the process customers take to purchase a product or a service from the organization.

A commercial bank is a financial institution which performs the functions of accepting deposits from the general public and giving loans for investment with the aim of making profit. Commercial banks

have two biggest features of accepting deposits and lending. They earn money from interests they get from lending loans. According to the recent report from the Central Bank of Kenya there are 42 commercial banks in Kenya and one mortgage finance institution. Twenty-five (25) are locally owned, 15 are foreign owned and three are owned by the government. As at the end of June 2016, of the 24 locally owned, 3 were not in operation, one was under statutory management and two were in receivership. These banks are regulated by the Central Bank of Kenya which is guided by the following pieces of legislation: Central Bank of Kenya Act of 2015, Banking Act of 2015, The Constitution of 2010, Micro-finance Act of 2006, The National Payment System Act of 2011 and the Kenya Deposit Insurance Act of 2012. The regulations are issued so that there can be transparency between the commercial banks and individuals or clients that they do business with.

In the recent years, the commercial banks in Kenya have been embracing service operation design this is a result of digital culture and financial innovations. For example, use of phone applications to deposit or withdraw cash. Equity bank has an app called Eazzy Banking where one can deposit cash, withdraw, apply for loans and even check bank balances all without visiting the bank. Cooperative Bank has M-Coop cash app. This has also been improvised where customers can send money from their phones to their accounts. For example, depositing cash from M-pesa account to the bank account through M-pesa paybill. There are also bank agents that have been set up in many areas thus easily accessible where one can deposit or withdraw cash as long as they have their ATM card or account number for deposits. Some of the banks that have embraced this agency banking include KCB with KCB-Mtaani, Equity bank has Equity agent and the Cooperative Bank of Kenya has Co-op Kwa Jirani. ATMs have also upgraded where in Barclays bank one can deposit cash through the ATM. Internet banking has also been invented where customers can transact online at any time by logging in to your account. Stanbic bank and Cooperative Bank of Kenya have embraced the use of e-banking/ internet banking in Kenya (Waiguru, 2015).

## **2. RESEARCH PROBLEM**

In recent year's business competition, deregulation and globalization have created an environment for banks to offer services in 24 hours around the world. This factor has significantly affected banks operational performance and customer satisfaction (Mutitu, 2012). Over the last decade, the banking sector in Kenya has continued to grow in assets, deposits, profitability and products offering. This growth is as result of especially automated number of services and a shift of focusing on customer's needs (Waiguru, 2015). Despite of these successes in the financial sector, banks in Kenya operate under a very competitive environment which involves many participants such as microfinance institution's Sacco's mobile lending apps and so on. In order to remain competitive in this environment banks have come have with service operations design which includes Service selection and design, Selection and design of the service system, Capacity design/long –term capacity and demands decisions, Service facility location, Service facility design and layout and Service operations design in supply chains respectively. All this process work together for the service to be effective and efficient to the customers.

International studies carried related to this area of operations design includes Chen and Hitt (2002) on his study on measuring switching costs and the determinants of customer retention in Internet-enable business in United States revealed that customer retention can be influenced by design of self-service systems and other service design choices. Carlos *et al.* (2006) on their study of customer perceived value in banking services showed that e-banking provides an important platform for banks to sell their products and services. Awinja (2015) study revealed that service delivery channels contribute immensely to the firm's sales and growth and therefore, Improving customer satisfaction, cost reduction and as a result improved productivity.

Local studies include: A study by Thomas (2012) which revealed that there is a distinct relationship between quality of services and customer satisfaction. In her recommendations she highlighted that there is need to improve on communication, attention to the customer's complaints and the banks to improve on the services facilities. A study by Muslim and Isa (2005) revealed that customer satisfaction within the banks differed from one service to the other which was mainly attributed to the services encountered by the bank's customers. Thomas (2012) on his study revealed existence of poor performance of electronic facilities compared with an ideal banking service. Awinja (2015), On his study on the service delivery channels and operations performance for the commercial banks in Kenya found that mobile banking and internet banking offers more convenience and flexibility services to customers. Study by Mutitu (2012), service delivery design practices and customer satisfaction among commercial banks in Kenya recommends a study to be done on the effects 'of service operations design practices on the customer satisfaction of commercial banks in Kenya.

From the above study's findings and recommendations, it's clear that customer satisfaction and service operations design has not been fully addressed. And therefore, there is a gap which needs to be filled by carrying a study on the effects of service operations design practices among commercial banks in Kenya. This study will seek to answer the following questions; which are the service operations design methods or practices used by commercial banks in Kenya? Then is there any relationship between service operations design practices and customer satisfaction?

### **3. RESEARCH OBJECTIVES**

This study sought to achieve the following specific research objectives:

- i. To determine the service operations design practices commonly used by commercial banks in Kenya; and
- ii. To establish the relationship between service operations design practices and customer satisfaction among commercial banks in Kenya.

### **4. LITERATURE REVIEW**

This chapter entails the opinions presented by different scholars with regard to customer satisfaction and service operations designs practices. The literature mainly focuses on service operations design practices, service quality, customer satisfaction, theoretical frame work and conceptual frame work.

#### **4.1. Service Operations Designs Practices**

The main reason for operations design practices is to design services according to the customers' needs and at the end to ensure that services is user friendly, competitive and has the highest level of retention by the customers. According to [Agarwal and Prasad \(1998\)](#), up to date instruments, systems and facility designs could positively or negatively affect customer's perception towards the quality of a product or service. Offering a high-quality service needs an efficient and effective operations design process. In order for this process to be accomplished many service organizations have adopted service blue print technique (SB) as a method of designing new services or even managing the existing services ([Stichnoth et al., 1994](#)).

In this tool all the steps of service operations are identified and graphically represented in two-dimension flow charts. The flow chart consists of both horizontal and vertical axis. The horizontal axis represents chronological sequences of all the sub-processes while the vertical axis describes the level within the service provider the tasks being executed.

According to [Mustak et al. \(2013\)](#) service design can involve both the tangible and intangible can also involve artifacts and either things including communication, environment and behaviors. SOD practices may include three outcomes including designing of services as new or improved service products, designing services which benefit the organization and designing services which benefit both the organization and the customers. And lastly designing services which benefit the service providers.

The concept of service operations design practices is not only involving new services but also includes the changes and the improvement which are important to increase or maintain value to the customers over their service consumption and continuous use of the service. The designing of the service has become of the priority to the top management in service industries like hospitals and commercial banks. In this study context service operations design practices are summarized as follows:

#### **4.2. Service Selection and Design**

In designing service for the organizations, one distinctive characteristic of services must be remembered which is, services cannot be stored. In services we must (with a few exceptions) meet demand as it arises. Consequently, in services, capacity becomes a dominant issue. Consider many service situations you find yourself in- for example, eating in a restaurant. Generally speaking, if the restaurant is full, you will decide to go somewhere else. An important design parameter in services is what capacity should we aim for? Too much capacity generates excessive costs. Insufficient capacity leads to lost customers. This is one reason why we have discount airfares, hotel specials on weekends, and so on ([Agarwal and Prasad, 1998](#)).

There are three Contrasting Service Designs Approaches. One is The Production Line Approach: The production line approach was pioneered by McDonald's which refers to more than just the steps required in assembling a Big Mac. As Theodore Levitt notes, it is treating the delivery of fast food as a

manufacturing process rather than a service process. The value of this philosophy is that it overcomes many problems inherent in the concept of service itself. That is, service implies subordination or subjugation of the server to the served; manufacturing, on the other hand, avoids this connotation because it focuses on things rather than people. Second approach is the Self-Service Approach: C. H. Lovelock and R. F. Young propose having the customer take a greater role in production of the service can enhance the service process. Automatic teller machines, self-service gas stations, and in Many customers like self-service because it puts them in control. Too much capacity generates excessive costs and insufficient capacity leads to lost customers. Room coffee-making equipment in hotels etc are approaches that shift the service to the consumer. Many customers like self-service because it puts them in control. The third approach is the Personal Attention Approach: An interesting contrast in the way personal attention is provided can be seen in Nordstrom Department Stores and the Ritz-Canton Hotel Company. At Nordstrom, a rather loose, unstructured process relies on developing a relationship between the individual salesperson and the customer (Lovelock and Gummesson, 2004).

### **4.3. Selection and Design of the Service System**

In service selection and design of the service system the amount of customer contact or physical presence of the customer is considered. Service systems range from those with high degree of customer contact. Service encounters can be configured in a number of different ways.. The service-system design matrix includes six common alternatives. Flowcharting, like in manufacturing process design, is the standard tool for service process design. The flowchart, or service blueprint, emphasizes the importance of design. Poka-yoke systems applied to services prevent mistakes from becoming service defects. Approaches to services include the production line approach, the self-service approach, and the personal attention approach. Service guarantees are not only a marketing tool for services but, from an operations perspective, these guarantees can be used as an improvement incentive and can focus the firm's delivery system on things it must do well to satisfy the customer. Finally, the case on Pizza USA provides an example of design of services (Singhal and Padhmanabhan, 2008).

Waiting Lines is also an important aspect in design of service systems: Understanding waiting lines or queues and learning how to manage them is one of the most important areas in operations management. Queuing theory is used in both manufacturing and service organizations to understand queues and to arrive at solutions to eliminate or minimize them. The waiting line system consists of six major components: the source population, the way customers arrive at the service facility, the physical waiting line itself, the way customers are selected from the line, the characteristics of the service facility, and the condition of the customer exiting the system (Wetter-Edman, 2014).

Arrivals at a service system may be drawn from a finite or limited customer pool or from a population that is large enough in relation to the service system so that changes do not significantly affect the system probabilities. Another determinant of waiting line formation is the arrival characteristics of the queue members. The arrivals are far more controllable than normally recognized. Coupons, discounts, sales, and other methods can control demands on a system. Queue lines can vary in length, in the number of lines used, and in the queue discipline or rules used for determining the order of service to customers. First come, first serviced is the most common priority rule. The service facility itself, with its particular flow and configuration can influence the queue. Computer spreadsheets are used to arrive at answers to waiting line problems. Computer simulations can also be used to arrive at solutions of more complex or dependent waiting line situations. Waiting line problems present challenges to management to attempt to eliminate them (Wetter-Edman, 2014).

### **4.4. Capacity Design/Long –Term Capacity and Demands Decisions**

This is a design process in which it is decided which objective within a service system will be permitted to yield and which objectives will remain realistic. Once ductile and brittle systems are decided upon, design proceeds according to the following guidelines: Ductile components are designed with sufficient deformation capacity such as they may satisfy strength-based demand capacity ratio. It is best to implement capacity design because service performance is a deliberate intention of the designer and not revealed in a secondary manner by service tools. Also because of many sources of uncertainty inherent to service modeling and analysis, unless ductile systems are predetermined as computational tool many not be accurately indicate which systems will achieve inelastic responses (Wetter-Edman, 2014).

Capacity design comes to the relief of computational time. When an engineer knows which objectives will behave elastically and will be permitted to yield, material nonlinearity need only be modeled for ductile components (Pan, 2000).

#### **4.5. Service Facility Location**

From market perspective service location focuses on attracting customers to a site because of convenience or physical attributes. Location also affects the service delivery design and has an impact on the employees. When deciding on service location there are the following strategic dimensions to be considered which are: Competitive positioning which refers to the methods by which the firm can establish itself relative to its competitors. Prime location can be barrier to entry. Second is Demand Management; this is the ability to control the quality, quantity and timing of demand, for example, a hotel can control demand by locating near a diverse set of market generators that supply a steady demand regardless of the economic condition. Flexibility; of a location is a measure of the degree to which the service can react to changing economic situations. Plan for future economic changes and portfolio effect for example, locating sites in a number of states could reduce the overall risk of financial crisis resulting from regional economic downturns (Manzini, 2007).

Focus dimension can be developed by offering the same narrowly defined service at many locations. Many multisided service firms develop a standard or formula facility that can be duplicated at many locations. While this approach makes expansion easier, sites that are located in close proximity could siphon business from each other. The last issue for service location is site selection considerations which include: Access this should be convenient to freeway exists and entrance ramps served by both private and public transportation. Visibility which involves set back from street surrounding clutter sign placement. Other factors include Traffic, parking, Expansion Environment, Competition and Government (Johnston and Jones, 2004).

#### **4.6. Service Facility Design and Layout**

The major factors considered for service providers, is an impact of location on sales and customer satisfaction. Customers usually look about how close a service facility is, particularly if the process requires considerable customer contact. Hence, service facility layouts should provide for easy entrance to these facilities from the freeways. Well-organized packing areas, easily accessible facilities, well designed walkways and parking areas are some of the requirements of service facility layout (Kalbach, 2016).

Service facility layout will be designed based on degree of customer contact and the service needed by a customer. These service layouts follow conventional layouts as required. For example, for car service station, product layout is adopted, where the activities for servicing a car follows a sequence of operation irrespective of the type of car. Hospital service is the best example for adaptation of process layout. Process layout design determines the best relative locations of functional work centers. Work centers that interact frequently, with movement of material or people, should be located close together, whereas those that have little interaction can be spatially separated. One approach of designing an efficient functional layout is described as follows: first is List and describe each functional work center. Second Obtain a drawing and description of the facility being designed. Third Identify and estimate the amount of material and personnel flow among work centers. Fourthly use structured analytical methods to obtain a good general layout. And lastly evaluate and modify the layout, incorporating details such as machine orientation, storage area location, and equipment access (Wetter-Edman, 2014).

The first step in the layout process is to identify and describe each work center. The description should include the primary function of the work center; drilling, new accounts, or cashier; its major components, including equipment and number of personnel; and the space required. The description should also include any special access needs (such as access to running water or an elevator) or restrictions (it must be in a clean area or away from heat (Wetter-Edman, 2014).

For a new facility, the spatial configuration of the work centers and the size and shape of the facility are determined simultaneously. Determining the locations of special structures and fixtures such as elevators, loading docks, and bathrooms becomes part of the layout process. However, in many cases the facility and its characteristics are a given. In these situations, it is necessary to obtain a drawing of the facility being designed, including shape and dimensions, locations of fixed structures, and restrictions on activities, such as weight limits on certain parts of a floor or foundation Mustak *et al.* (2013).

#### **4.7. Service Operations Design in Supply Chains**

Any service delivery system can be viewed as a chain or network of activities, which involves number of participants. Just like supply chain in manufacturing, in services also all the participants are related to each other. The objective of achieving efficiency and or responsiveness is equally important and relevant in the whole network of participants involved in delivery service called service supply chain. The structure of supply chain can vary from a simple serial supply chain to a broad network of supply chain

entities (Saravanan and Rao, 2007).

In retail sector, the supermarket has to manage many different suppliers ranging over food items, fashion jewelry, apparel, leather items etc. Handling and managing so many suppliers are like managing a web or a network of so many participants in service supply chains, where intermediaries play a very important role. Many insurance and financial companies choose to sell their service products through brokers or agents. A supply chain is the network or a chain linking focused organization with its suppliers, suppliers and customers. Supply chain deals in the management of the flow of information, materials, services and money among supply chain entities (Svensson, 2006).

In services, the service activity is initiated by the customers. Service is an act or deed performed on the customer's mind, body, belongings or information provided by the customer. Hence, customer acts like a supplier to the service provider who provides something to get the service done. This dual role of customer, of being supplier also, in service exchange is called as customer-supplier duality. The customer-supplier duality is also known as bidirectional relationships between service provider and customer (Svensson, 2006).

In single level bidirectional relationship, customer provides inputs to the service provider and service provider performs the service. The service provider converts the inputs into an output in the service production process and delivers to the customer. In two-level bidirectional relationship service provider employs another service provider (second level) or supplier who assists with the processing of customer inputs. This is also analogous to situation where some service providers (initial) outsource the repair work or any service to other service provider, that is second level service provider. That means the initial service provider acts as an interface between the second level service provider and customer (Wetter-Edman, 2014).

Service providers of some of the pure services provide their respective services in the form of packaged service. Packaged service is a set of more than one service offered together by different service provider. It can be widely seen in hospitality and tourism industry or holiday industry, how travel agent through tour operator form link with hotels, airlines, transportation and restaurants to provide customers with a complete holiday experience (Lee and Ulgado, 1997).

#### **4.8. Service Quality**

Different scholars have defined service quality based on many conditions; quality is meeting or exceeding customer expectations. This definition is quite popular today and of course customers are the ultimate judge of quality and there are no other patrons involved in deterring quality. Saad (1998) in his study on customer satisfactions on hospitals notes that firms which fail to understand the importance of service quality may extinct (Karatepe *et al.*, 2005).

According to Grönroos (1999) service is an activity of series or of many processes of intangible nature which takes place between the interaction of service employees and customers. According to him services are produced and consumed in physical resources or goods/systems of the service provider. In practice service, both intangible and tangible are combined in the activities of the business which are offered to bring satisfaction to the customers. Bitner *et al.* (2000) define service quality as the overall impression of the organizational services and also the comparison of the customer expectation of the service with its performance.

As far as the above definitions are concerned it is clear that service quality can be linked with the attributes of the product or services as well as the overall matching of the customers expectation with the organization service or product performance (Chase, 1978).

#### **4.9. Customer Satisfaction**

Hafeez and Muhammad (2012) defined customer satisfaction as the degree to which a service or product of the organization meets customer expectation. Customer satisfaction does not only measure how happy the customer is with the product or service but also the willingness of the customer to do the business with that company again and overall experience of that organization.

Customer satisfaction can be measured by the following methods: customers' satisfaction score (CSAT) this method is used to determine how customers are satisfied with the services or the products, business or team. In this method customers are usually asked about their level of happiness regarding some aspects of the business then the answers are expressed in percentages and the greater the percentage the higher the rate of satisfaction. The second method is Net promoter score, this method measures how likely the customer will act as the referral for the company's product or service. It groups the customers in to three categories that is Promoters: this are the customers who are happy about the company's service or

product and are willing to share their experience with their friends, families as well as colleagues. Passive these are customers who are satisfied but are not willing to bring their friends or families to the company. Detractors this are customers who are not satisfied with the product or services and may damage the company's brand and image. The last method is customer effort score this method involves all the process customers take to purchase a product or a service from the organization (Sureshchandar *et al.*, 2002).

Many studies established that customer satisfaction is very important aspect to long term business success (Zomerdijk and Voss, 2010). According to Park *et al.* (2006) for the organizations to remain competitive in their market place they need to offer products and services of the highest quality to their customers as well as their prospective customers. Therefore, product and service quality are the key ingredients for satisfying and retains loyalty from the customers (Muslim and Isa, 2005). According to Karatepe *et al.* (2005), it's clear that delivery of service of high quality offers the opportunity for the organization to differentiate its products to that of its competitors.

Banks need to understand on how its services influences their customers satisfaction and loyalty this is because a slightly increase in customers satisfactions increases customer loyalty and retention. Which in long run will affects the organizational performance in terms of profits and market share and when the organization has a command in the market share its automatically translates to good performance for that particular organization (Gerrard and Cunningham, 1997).

#### **4.10. Service Operation Design and Customer Satisfaction**

With the increasing competing of the service industry especially in commercial banks it is important for the banks to achieve customer loyalty and satisfaction by offering excellent services to their customers. Good service design results to the highest level of quality which in turn provide the organization with good performance as a result of customer satisfaction and retention of the customers. Good quality of the service forces the customers to go for the same service over and over again which is the benefit thing to the organization (Cronin and Taylor, 1992).

From the past researchers about service quality and customer satisfaction it has been revealed that service quality and customer satisfaction have positive relationship. A study revealed that customer satisfaction and service quality have positive relationship this is due to the correlation findings which revealed so because of the positive values. Another study by Gera (2011) Revealed that service quality and customer satisfaction had a positive correlation thus showing positive relationship between customer satisfaction and service quality. From the past scholars is clear that organization which had high customer satisfaction were performing well financially as compared to their competitors, with this regard it's how the service is designed will lead to high customer satisfaction.

### **5. RESEARCH METHODOLOGY**

This section highlights the research methodology that was used to analyze the service operation practices among commercial banks in Kenya. The fundamental issues discussed are the design of the research used; the study target population, sample size and its sampling design used, the data collection method used for the study and also the techniques used to analyze the data gathered for the study.

Descriptive design and survey designs are the two main methods used for the study. The descriptive method is used to describe the variables of interest through profiling, predicting, segmenting, defining and examining associative relationships. The survey methods attempt to get information from the members of population with regard to different kind of variables. Therefore, these two methods were regarded to be very important in getting information from commercial banks with respect to the effects of service operations design on the customer satisfaction among commercial banks in Kenya.

The main focus of the study was commercial banks in Kenya. According to CBK there are 43 commercial banks in Kenya. The study targeted to analyze all the commercial banks in Kenya but opted for 15 banks in Kenya as the sample size.

The researchers used primary data since the information of the variable used was not published. Primary data was collected through self-administered questionnaire which was closed ended as the most profound means of gathering data from respondents. The questionnaire was divided in to three parts the first section involving the information about the respondent, the second part about the service operation design practices among commercial banks in Kenya and the last part about service operation design practices and customer satisfaction

According Hirtz *et al.* (2002) data reliability can be described as extent to which data analysis and procedure gives consistent finding while validity is all concerned with whether the finding is as per the study. In order to maintain reliability a closed ended questionnaire was designed and pilot test



administered. The pilot test was to enable the researchers to refine the questionnaire when the answering could be a problem to the respondents.

According (Jayanti and Jackson (1991)) data analyzing involves all the processes carried for the data so that some information is obtained from the data which can be understood by the third party. Quantitative data was analyzed using the statistical package for social scientist's version 20. Descriptive statistics methods such as mean and standard deviation were used for the study. Presentation of data was mainly in the form of tables, pie and bar graphs. Qualitative data was presented inform of explanatory notes.

## 6. DATA ANALYSIS, FINDINGS AND DISCUSSIONS

### 6.1. Introduction

This chapter covers data analysis, presentation and interpretation. The findings are presented in a way of addressing the research questions. Each section starts with brief introduction of the subtopic. It presents the descriptive statistics of the data. Data was collected from a sample of 60 employees of 15 commercial banks in Kenya. Out of the 60 questionnaires distributed 50 of them were filled and returned and used for analysis which was a 91.7% response rate, 2 questionnaires had errors and hence were not used in the analysis while 8 questionnaires were not responded to. The collected data was then entered into spreadsheet and errors corrected. Statistical Package for Social Sciences (SPSS) software was then used for analysis.

### 6.2. Personal Information

The section sought to establish the information of the respondents including gender, and years of the service to the bank.

### 6.3. Gender of the Respondents

The study sought to establish the gender of the respondents as either male or female.

Table 1. Gender of the respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Female	31	62.0	62.0	62.0
Male	19	38.0	38.0	38.0
Total	50	100.0	100.0	100.0

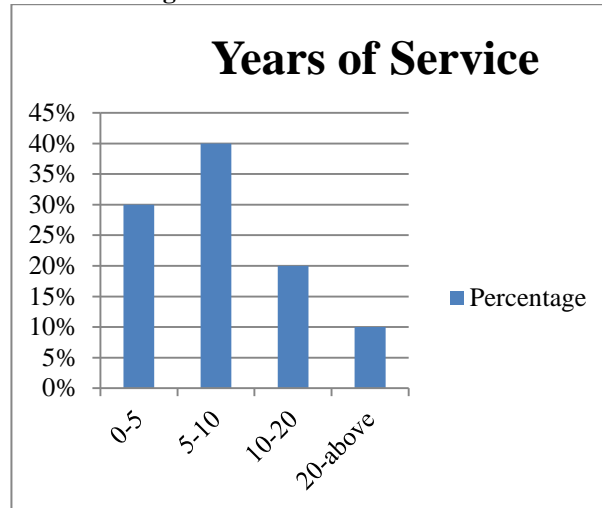
Source: Researcher (2019).

From the Table 1 its clear Female employee's at commercial banks in Kenya are more than male employees. This is because female employees are at 62% while male employees are at 38%.

### 6.4. Years of the Service

The respondents were asked to indicate the years they have worked at their specific banks.at a scale of 0-5 years, 5-10 years, 10-20 years then 20 years and above.

**Figure 1.** Years of the service



Source: Researcher (2019).

From figure 1 above 30% of employees have worked between 0-5 years, 40% of the employees have worked between 5-10 years, 20% of the employees have worked between 10-20years, 10% have worked for more than twenty years at commercial banks in Kenya.

### 6.5. Service Operation Design Practices among Commercial Banks in Kenya

This section sought to determine the effects of service operation design practices on customer satisfaction among commercial banks in Kenya. To enhance the quality of the data obtained Likert type questions were included whereby respondents indicated the extent to which the variables were practiced in a five point Likert scale of 1-5 with each represented as follows; 5-Agree to very great extent, 4- Agree to great extent, 3- Agree to medium extent, 2- Agree to small extent and 1 - Agree to very small extent.

### 6.6. Service Selection and Design among Commercial Banks in Kenya

The study sought to establish the respondents’ level of agreement with statements relating to service selection and design.

**Table 2.** Service Selection and Design

Service Selection and Design	Mean	S.D
The bank has implemented service selection and design to improve customer satisfactions	4.3213	0.62134
Service selection and design has improved customers satisfactions	3.7892	1.2346
<b>Average Mean</b>	<b>4.0552</b>	

Source: Researcher (2019).

From the study findings in Table 2 above, majority of the respondents were in agreement that the banks have implemented service selection and design to improve customer satisfaction as shown by a mean score of 4.3213, Service selection and design has improved customers satisfactions as shown by means score of 3.7892.The standard deviation shows there is general consensus of service operation design implementation on banks and also improvement on customer satisfaction.

### 6.7. Selection and Design of Service Delivery Systems among Commercial Banks in Kenya

The study sought to establish the respondents’ extent of agreement with statements relating to service delivery systems.

**Table 3.** Selection and Design of Service Delivery Systems

Selection and Design of Service Delivery Systems	Mean	S.D
When designing service system, the bank considers customer contact	3.5621	0.72134
Service selection and design is done to increase customer contact to the bank	3.8892	0.1346
<b>Average mean</b>	<b>3.7257</b>	

Source: Researcher (2019).

From the study findings in [Table 3](#) above, majority of the respondents were in agreement those when designing service system, the banks considers customers contact at mean of 3.5621. Majority of respondents were in agreement that service selection and design is done to increase customer contact to the bank at mean of 3.8892. The standard deviation shows that there is a general consensus in service selection and design of service delivery system in determining customer's presence to the bank.

### 6.8. Capacity Design

The study sought to establish the respondents' extent of agreement with statements relating to capacity design.

**Table 4.** Capacity design

Capacity Design	Mean	S.D
The bank implements capacity design to accomplish the objective of the service	3.8215	0.86997
Capacity design helps in the performance of the service to the customers	3.7500	0.97849
<b>Average mean</b>	<b>3.7857</b>	

Source: Researcher (2019).

From the study findings in [Table 4](#) above, majority of the respondents were in agreement that Banks implements capacity design to accomplish the objective of the service at mean of 3.8215. Majority of respondents were in agreement that capacity design helps in the performance of the service to the customers at mean of 3.7500. the standard deviation shows that there is a general consensus in capacity designing when determining performance of the service.

### 6.9. Service Facility and Location among Commercial Banks in Kenya

The study sought to establish the respondents' extent of agreement with statements relating to service facility and location.

**Table 5.** Service Facility and Location

Service Facility and Location	Mean	S.D
Competition focus	4.7225	.62345
Convenience focus	4.6213	.73347
Flexibility of the location focus	4.3200	.84384
<b>Average mean</b>	<b>4.4420</b>	

Source: Researcher (2019).

From the findings in [Table 5](#) above, majority of the respondents were in agreement that banks facility and location focuses on competition at mean of 4.7225 focuses on convenience at mean of 4.6213 and flexibility to customers at mean of 4.3200. The standard deviation shows that there is a general consensus in service facility and location of banks in determining competition, convenience and flexibility of location to the customers.. This implies that to a great extent; service facility and location affects customer satisfaction positively.

### 6.9. Service Facility Design and Layout among Commercial Banks in Kenya

The study sought to establish the respondents' extent of agreement with statements relating to service facility design and layout.

**Table 6.** service facility design and layout

Service Facility Design and Layout	Mean	S.D
The bank has facilities which have easy entrance by the customers	4.5215	0.76997
The bank has a well-organized parking area	3.2500	0.97849
<b>Average Mean</b>	<b>3.8857</b>	

Source: Researcher (2019).

From the findings in [Table 6](#) above, majority of the respondents were in agreement that banks have facilities which have easy entrance by the customers at a mean of 3.8215, while the banks has well organized packing area at a mean of 3.2500 and average mean of 3.8857. The standard deviation shows that there is a general consensus in service facility and design of banks in determining easy entrance to the bank by customers and well packing area by the banks which influences customer satisfaction positively.

### 6.10. Service Operations Design in Supply Chains among Commercial Banks in Kenya

The study sought to establish the respondents’ extent of agreement with statements relating to service facility design in supply chains.

**Table 7.** Service Operations Design in Supply Chains

Service operations design in supply chains	Mean	S.D
When offering new services, we communicate with our customers at a personal level and as well as advertising	4.8215	0.46997
We offer services as per our customer requirements	3.6500	0.97849
<b>Average mean</b>	<b>3.8857</b>	

Source: Researcher (2019).

From the findings in Table 7 above, majority of the respondents were in agreement that when banks offering new services communicate with their customers when offering new services we communicate with our customers at a personal level and as well as advertising at a mean score of 4.8215, while banks offer services as per the customers’ requirements at mean score of 3.6500 and the average mean of 4.2 this implies that service operations design in supply chains influence customer satisfaction to a very great extent. The standard deviation shows that there is a general consensus in service operations design in supply chains when banks offering services to customers and also services offered by the banks are as per the customer requirements.

### 6.11. The Relationship between Service Operations Design Practices on Customer Satisfaction among Commercial Banks in Kenya

The study conducted a statistical test to establish the effects service operation design practices has on customer satisfaction as measured by customer satisfaction score of 10%-100%. The findings are shown in table below.

**Table 8.** Service Operation Design Practices and Customer Satisfaction

Service Operation Design Practices	N	Mean	Std. Deviation	Std. Error Mean
Service selection and design	50	.542000	.2768924	.0391585
Selection and design of the service delivery system	50	.614000	.2371256	.0335346
Capacity design	50	.658200	.2495195	.0352874
Service facility location	50	.646000	.2531113	.0357953
Service facility design and layout	50	.552000	.2619316	.0370427
Service operations design in supply chain	50	.500600	.2597833	.0367389

Source: Researcher (2019).

From table 8 above service selection and design affects customer satisfaction at average score of 54%, Selection and design of the service delivery system affects customer satisfaction at a score of 61.4%, Capacity design affects customer satisfaction at an average score of 65.82%, service facility location affects customer satisfaction at a score of 64.6 %,service facility design and layout affects customer satisfaction at average score of 55.2% while service operation design I supply chain affects customer satisfaction at an average score of 50%.This implies that service operations design practices in commercials banks in Kenya affects customer satisfaction to a score of more than 50%.

The study carried out regression analysis to establish the relationship between service operation design practices and customer satisfaction as shown in the table below.

**Table 9.** Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.120	.014		8.469	.000
	Service operation design practices	.008	.024	.049	.343	.733

a. Dependent Variable: Customer satisfaction

Source: Researcher (2019).

From the table above the coefficient for service operation design practices is 0.08, std error 0.024

and sig 0.733. Therefore, service operation design affects customer satisfaction positively and insignificantly this is due to a coefficient of 0.008 which is positive and a p- value of 0.733 which is above the p-value of 0.05.

From the above regression the below regression equation is realized  
 $Y=0.120+0.008X1$

## **7. DISCUSSIONS OF THE FINDINGS**

From the findings of the study it's clear that Kenya commercial banks has many female employees than male employees this is explained by 62% of the female employees and 38% of male employees. From the study findings it's clear that majority of employee have worked for more than five years this is because generally 40% of the employees indicated that they have worked for more than five years in their specific banks.

From the study findings majority of the respondents were in agreement that, the banks have implemented service selection and design to improve customer satisfaction as shown by a mean score of 4.3213, Service selection and design has improved customers satisfactions as shown by means score of 3.7892. From the study findings in Table 3, majority of the respondents were in agreement that when designing service system, the banks considers customers contact at mean of 3.5621. Majority of respondents were in agreement that service selection and design is done to increase customer contact to the bank at mean of 3.8892. From the study findings in Table 4 above, majority of the respondents were in agreement that Banks implements capacity design to accomplish the objective of the service at mean of 3.8215. Majority of respondents were in agreement that capacity design helps in the performance of the service to the customers at mean of 3.7500.

From the findings in Table 5, majority of the respondents were in agreement that banks have facilities which have easy entrance by the customers at a mean of 3.8215, while the banks have well organized packing area at a mean of 3.2500 and average mean of 3.8857. From the findings in Table 6, majority of the respondents were in agreement that banks have facilities which have easy entrance by the customers at a mean of 3.8215, while the banks has well organized packing area at a mean of 3.2500 and average mean of 3.8857. From the findings in Table 7, majority of the respondents were in agreement that when banks offering new services communicate with their customers at a personal level as well through advertising at a mean score of 4.8215, while banks offer services as per the customers' requirements at mean score of 3.6500 and the average mean of 4.2 this implies that service operations design in supply chains influence customer satisfaction to a very great extent. From the study's findings in table 8 all service operation design practices affect customer satisfaction to a very great extent and also, they affect customer satisfaction to a score of more than 50% as explained by a statistical table.

From the regression analysis the coefficient for service operation design practices is 0.08, std error 0.024 and sig 0.733. Therefore, service operation design affects customer satisfaction positively and insignificantly this is due to a coefficient of 0.008 which is positive and a p- value of 0.733 which is above the p-value of 0.05.

## **8. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **8.1. Summary of Findings**

The objective of the study was to establish service operation design practices among commercial banks in Kenya and relation they have on customer satisfaction. The study established that majority of the respondents working on Kenya commercial banks were female. It was clear that a large number of employees had worked in their specific banks for more than five years.

The study established that commercial banks in Kenya have implemented service selection and design to improve customer satisfaction. The study revealed that service selection and design is done in the banks to increase customer contacts to the banks. The findings of the study revealed banks implemented capacity design to accomplish the objective of their services to their customers and also capacity design helps in the performance of the service to customers.

The findings of the study revealed that commercial banks in Kenya have facilities which are easy to access as well as well-organized parking for their customers. From the findings, majority of the respondents were in agreement that when banks are offering new services, they communicate with their customers through direct interaction with the customers e.g. SMS, e-mail as well as advertising for them to offer services as per the customer requirements. Generally, from the findings of this study, commercial banks in Kenya have implemented all the service operations design practices as these affect customer

satisfaction to a great extent.

The study established that all service operations design practices which are: service selection and design, Selection and design of the service delivery system, Capacity design, service facility location, service facility design and layout and service operations design in supply chain affects customer satisfaction at a score of more than 50% revealing a positive relationship between service operation design practices and customer satisfaction among commercial banks in Kenya. Further the regression analysis revealed a positive relationship between customer satisfaction and operation design practices among commercial banks in Kenya.

## 8.2. Conclusion

From the findings the study concludes that all service operations design practices which are: service selection and design, Selection and design of the service delivery system, Capacity design, service facility location, service facility design and layout and service operations design in supply chain affects customer satisfaction at a score of more than 50% revealing a positive relationship between service operation design practices and customer satisfaction among commercial banks in Kenya. The study further concludes that all commercial banks in Kenya have implemented all the six service operations design practices and they affect customer satisfaction to a great extent. The study concludes that service operations design practices affects customer satisfaction positively and insignificantly among commercial banks in Kenya.

## 8.3. Recommendations

The study recommends that commercial banks in Kenya to pay more attention on the service operation design practices in supply chains since it had the lowest customer satisfaction score. The study also recommends that in order to enhance service delivery at Kenya commercial banks all the service operation practices to be taken seriously by operations department and banks managers so that the performance of the service to their clients its improved. The study recommends that male employee to be considered in service industries since the study findings revealed more female employees are working in the banking industry.

## 8.4. Recommendations for Further Studies

The study has investigated service operations design practices among commercial banks in Kenya. The study therefore recommends that further research should be done on service operations design practices among organizations in public sector. The study further suggests a research to be done on the effects of service operation design on performance of commercial banks in Kenya. The study identified a gap of few male employees in the banking sector and therefore the study suggests a study to be done on why many service industries embrace more female employees than male employees.

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