

**SERVICE DELIVERY SYSTEMS DESIGN AND OPERATIONAL  
PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

**BY**

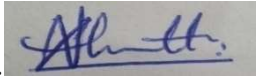
**FESTUS MUINDI NZUKI**

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## DECLARATION

This research project is my original work and has not been presented for a degree in any other University.

Signed.....  ..... Date...30<sup>th</sup> September 2021.....

**Festus Muindi Nzuki**

**D61/63377/2011**

This research project has been submitted for examination with my approval as University Supervisor.

Signed  Date...30th September 2021...

**Zipporah Kiruthu**

Department of Management Science

Faculty of Business and Management Science

University of Nairobi

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## **DEDICATION**

I dedicate this work to my late Dad (Joseph Nzuki Mbithi) for his mentorship and support all through my academics and social life until his Demise on 21<sup>st</sup> October 2021.

Rest in Peace Dad.

To my Dear Wife Mercy Mwangeli and our lovely daughter Melanie Mutanu Muindi for the support and motivation in pursuit of my academic fulfilment.

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## **LIST OF ABBREVIATIONS**

- GST** - General Systems Theory
- ICT** - Information and Communication Technology
- SDS** - Service Delivery System
- U.S** - United States
- UST** - Unified Services Theory

## ABSTRACT

The service delivery system approach is a key strategy for innovative initiatives and solutions development in firms of different sizes because of low costs and implementation requirements. However, service delivery systems face different pressures in the ever-changing service environment that offers personalized services which require great quality, timely delivery and better performance. In Kenya, the banking sector has displayed little corporate position and offer customer various services with less concern of their needs with different banks posting different operating results. This led to the collapse of several banks among them the Charter House bank in 2005 while Dubai and chase banks were put under statutory management. This research thus aimed at determining the relationship between service delivery systems design and operational performance of Kenyan banking entities. The study was based on the unified services theory, service strategy triad theory and general systems theory. This study adopted a cross-sectional study design and undertook a census 42 Kenyan banks. The research used primary data which was gathered through questionnaires which dropped and picked to the bank's operational managers or their equivalents. Descriptive statistical tools and the regression model were used for data analysis using the SPSS statistical software. The results revealed a positive and significant interrelationship between the structural components and operational performance of Kenyan banks. The results also indicate a positive and significant relationship exists between the infrastructural components and operational performance of Kenyan banks. Finally, the finding document that integration components positively affected Kenyan banks operational performance. The study concluded that structural, infrastructural and integration components of service delivery systems significantly and positively enhance the operational performance. The study recommended that Kenyan banking entities management should ensure they link their structural, infrastructural and integration service delivery systems components with the organizations' strategic objectives to enhance banks operational performance.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Service delivery systems (SDS) design is a significant strategic issue which permits an organization to translate its strategy into operational decisions (Trinh & Kachitvichyanukul, 2013). Service delivery systems normally produces various positive results including reducing costs, increasing the accessibility of effectual processes, improving quality services and delivering an optimal client experience (Lodorfos, Kostopoulos & Kaminakis, 2015). The service sector competitiveness is dependent in part on the configuration and design of a SD system (Jonsson et al., 2011). Thus, a SDS design is an intangible asset that brings in competitive advantage (Seyitoğlu & Ivanov, 2020). Thus, a good SDS gives service providers the opportunity to gain or at least maintain a competitive advantage in the marketplace (Ponsignon, 2010).

This research is grounded on the unified services theory, service strategy triad theory and general systems theory. The unified services theory (UST) suggests that it is feasible to attain some insight into the service design by evaluating the interrelationship between the client's inputs and the design attributes of a service delivery process (Ponsignon, 2010). The service strategy triad theory indicates that an organization's strategic design choices influences it competitive capabilities and performance outcomes and customers evaluate the organization service delivery system effectiveness vis-à-vis its competitors (Sharma, 2014). The general systems theory suggests that a holistic view of the service delivery processes can deal with the complexities of service systems and help organizations understand the system design drawbacks (Barile & Polese, 2010).

In Kenya, banks undertake a significant function in mobilizing investment finance by attracting investors and supporting enterprises, and providing financial amenities to individuals' public with a view of profit generation (Awinja, 2015). Kenyan banks play a vital part in the execution of governments' policies, predominantly the monetarist policy that links the financial policies to the rest of the economy (Nyabola, Odwori & Otuya, 2017). Sectors such as agriculture and manufacturing are largely dependent on the banking sector for their growth and survival (Miencha & Selvam, 2013). The advent of novel technologies, products, practices, markets and rivalry among Kenyan banking entities has forced the institutions to use each of the necessary capacity to remain fiscally sound and competitive (Halima & Wepukhulu, 2020).

### **1.1.1 Service Delivery Systems Design**

A service delivery system (SDS) design denotes the alignment of the service amenities in which services are offered and the procedures through which the service processes are provided and structured (Chen & Hao, 2010). A service delivery system (SDS) also refers to a set of interrelating corporations involved in the provision of one or several commercial services (Poikonen, 2015). A SDS entails a number of interconnected service processes that represent a hierarchically organized process architecture (Seyitoğlu & Ivanov, 2020). The SDS answers the issue of exactly how services are provided to targeted clients (Trinh & Kachitvichyanukul, 2013).

The SDS endeavors to integrate the tactical intent of the service organization with the operational aspects of services execution (Sharma, 2014). The SDS bridges the gap between client expectations and experiences. The SDS is a medium by which service personnel strive to meet quality targets that the management has set to fill the existing

service quality gaps (Lodorfos, Kostopoulos & Kaminakis, 2015). A good service delivery design makes sure that customers perceive service delivery process and service outcome as being of high quality which increases customer satisfaction and enhances their loyalty (Ponsignon, Smart & Maull, 2007).

The SDS design supports the implementation of a service concept, and diverse service concepts and the various methodologies of designing the delivery systems (Trinh & Kachitvichyanukul, 2013). Menor and Roth (2003) postulates that a SDS architecture comprises three strategic design choices that include structural, infrastructural, and integration (Seyitoğlu & Ivanov, 2020). Structural and infrastructural choices define the competitive priorities while integration choices are concerned with reconciliation between competitive priorities and competitive capabilities in service delivery (Sharma, 2014).

### **1.1.2 Operational Performance**

Operational performance denotes the quantifiable facets of corporate results, like production cycle times, reliability and inventory turns (Alamro, 2014). Operational performance also indicates the strategic aspect of rival companies and contains various indicators at the operational level such as service delivery and flexibility (Liu et al., 2020).

Operational performance is the company's performance measured using prescribed or standard effectiveness and efficiency indicators (Ndanusa & Ogohi, 2020). A company's operating performance measures how well an entity employs its resources from its main business and makes income (Amarjit et al., 2016).

Operational performance remains the cornerstone of organization practice and the aggregate organizational productivity depends on reducing waste, costs, production

efficiency, cycle time, service delivery, regulatory compliance and environmental responsibility (Heizer et al., 2017). Operational efficiency is important for entities competitiveness, financial performance and market share (Hwang, Han & Chang, 2020). Operational efficiency is imperative for companies as it replicates growth in the quality of the experience in terms of services flexibility, lead-time that results to revenue and profits increase (Sylva, 2020). Operational performance also affects corporate performance indicators such as customer satisfaction and market share (Alamro, 2014).

The ability to measure operating performance is a significant aspect for competing firms in any industry (Mathur et al., 2014). Operational performance is commonly measured in four dimensions, namely quality proxied by average service time; delivery proxied by delivery time, flexibility assessed through the firm response to complaints and costs measured in terms of employee productivity (Hwang, Han & Chang, 2020). Various authors have employed a variety of performance measures centered on the research philosophy, industry category and the event under investigation. The most used latent operational performance measures are cost, flexibility, delivery and quality (Azim, Ahmed & Khan, 2015). Operational performance in this study will be measured through a composite of cost, delivery, quality, and flexibility.

### **1.1.3 Commercial Banks in Kenya**

Kenyan banking entities play a vital function in the country's financial system and are the main players in the Kenya financial sector (Odunga, 2016; Miencha & Selvam, 2013). As of 31 December 2021, the industry consisted of the Kenyan Central Bank (CBK) as the oversight entity, 42 banking entities (41 banks and 1 mortgage financing entity) (CBK, 2020). Kenyan banking entities are supervised by the CBK and the sector is also regulated

by the CBK Act, Banking Act, Companies Act and various prudential rules published frequently by the CBK (Musau, 2018).

The operations of the Kenyan banking sector are critical to the Kenyan because of the role it plays in the country's economy growth and development (Nyabola, Odwori & Otuya, 2017). The segment acts as a link that bonds the Kenya's economy together. Various sectors like manufacturing and agriculture are essentially dependent on the banking industry for growth and survival (Odunga, 2016). The industry has continually grown in recent years in terms of assets, products deposits and profits (Omar & Kilika, 2018). The sector undertook business integration as a way to respond to changing customer needs as customers nowadays are highly knowledgeable and demand faster and efficient delivery of services than before (Awinja, 2015).

The Kenyan banking sector has undergone several critical reforms and structural changes. The most important changes include a strengthened network of banks and branches, shift from brick and mortar to branchless banking, agency banking and products innovation AND use of ICT (Musau, 2018). However, intense competition, serious poaching and the poaching of talented workers from one bank to another characterize the sector. Many commercial banks face a major challenge of branch reduction, as divisions create multifaceted post-merger issues, such as political and social issues, product modifications and administrative cultural concerns (Aluoch, Odondo & Ndede, 2018).



## 1.2 Research Problem

The service delivery system approach is a key strategy for innovative initiatives and solutions development in firms of different sizes because of low costs and implementation requirements (Silva et al., 2018). The design of an SDS affects an entity's service scope through provision of the physical space where services are undertaken (structural decisions), a description of the internal procedures and service's processes (infrastructure decisions), as well as system learning and knowledge (integration decisions) that determine personnel behavior (Seyitoğlu & Ivanov, 2020). However, service delivery systems face different pressures in the ever-changing service environment that offers personalized services which require great quality, timely delivery and better performance (Nayak et al., 2017). Further, service organizations face a major challenge to make sure that a service delivery system focuses on providing the anticipated service to the targeted customer (Ponsignon, 2010).

In Kenya, the banking segment has constantly increased their resources, deposits, profits and products (Aluoch, Odondo & Ndede, 2018). In the past decade however, the banking sector has displayed little corporate position and offer customer various services with less concern of their needs with different banks posting different operating results (Nyabola, Odwori & Otuya, 2017). This led to the collapse of several banks among them the Charter House bank in 2005 while Chase and Dubai banks have been put under statutory management (Musau, 2018). In addition, long queues, queuing, transaction errors, network failures and instability are the collective challenges among Kenyan banks (Omar & Kilika, 2018). This has significantly decreased the quality of services they offer to customers and

thus adversely affecting the banks' reputation as well as profitability (Halima & Wepukhulu, 2020).

Different global and local studies have explored service delivery system design and performance in various organizations. Lodorfos, Kostopoulos and Kaminakis (2015) for instance examined how SDS efficiency affects service quality and the documented a positive influence between the effectiveness of a SDS on service quality in terms of performance, effectiveness of process' control and coordination but the study was undertaken in different firms and did not cover the banking sector. Jonsson et al (2011) investigates the contingencies and attributes of a SDS design and documented that design characteristics have contingent implications on employee skills, automating, tasks routineness, employee discretion, and front and back office configurations but the study's context was not banks and the study did not link SDS design and performance.

Mutitu (2014) examined the relationship between SDS practices and consumer satisfaction among Kenyan banks and revealed that the design of service delivery practices affected customer satisfaction but the study's focus was customer satisfaction and not operational performance. Onguti (2017) explored the how service delivery systems affect supermarkets operational performance documented a positive and significant interrelationship by the study's context was supermarkets and not banks. The reviewed studies show that service delivery systems affect firm performance however the study findings oscillate between positive and negative effects that can be attributed to different methodologies, variable measures and different contexts in which they were carried out. In addition, while SDS research is growing most studies have been undertaken in manufacturing contexts with less research in service industries such as commercial banks. Thus, past studies relatively

provide little guidance on how SDS design affect banks operational performance. This study thus sought to assess the question; how does service delivery systems design affect operational performance of Kenyan banking entities?

### **1.3 Research Objectives**

The research objective was to determine the relationship between service delivery systems design and operational performance of commercial banks in Kenya.

### **1.4 Value of the Study**

The study's findings shall useful to the management of Kenyan banks to make appropriate service delivery system design strategies to enhance their banks operational performance hence performance improvement. The bank's management may adopt the study conclusions to develop suitable strategies on enhancing their firms' competitiveness.

The findings will also be of benefit to policymaking entities like the CBK, the Kenya Banker Association and the government agencies who are tasked with policy formulation. Policymaking entities can use the study conclusions and recommendation to develop strategic policy to enhance Kenyan bank's operational performance.

Finally, the findings will supplement the current empirical literature on SDS design and bank's operational performance. This research will supplement the theoretical literature on the UST, the service strategy triad theory and the general systems theory. The paper shall as well form a base for upcoming researches as well the forthcoming scholars can adopt the study to be a base for future studies.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This section involves a preview of theories under theoretical review, a review of SDS design choices and the various operational performance indicators. The chapter further review empirical studies on SDS design and operational performance, summary and gaps in the reviewed studies and finally the study's conceptual model.

### **2.2 Theoretical Review**

#### **2.2.1 Unified Services Theory**

Sampson and Froehle (2006) conceptualized the unified services theory (UST) which specifies that a company's service process entail the procedure that the company's customers offer basic input resources for the service process. Hence, clients provide resources and play a role as suppliers. Such customer inputs include information and other chattels (Pearce, 2016). The theory also explains that that a process is a service process where the existence of substantial customer input is incorporated in transformation processes. The UST provides a cataloging of service processes based on customer input, which focuses on the way in which inputs are converted into outputs (Hazée et al., 2020). The theory focuses on the service process and postulates that any provider process in which a single customer input is incorporated is a service (Lemey & Poels, 2011).

The UST is a useful theory that explains services conceptualization in an operations management viewpoint (Ponsignon, 2010). The theory explains that the existence of customer inputs effects operational management decisions. For example, areas such as forecasting and scheduling differ fundamentally in service processes because a service

result may not be effectively generated and delivered devoid of customer input (Pearce, 2016). An imperative UST assumption is that the dimensions of process strategy are related to the categorization of client input or the processing of client's input (Trinh & Kachitvichyanukul, 2013). The theory proposes an association between the variability and type of client supplied inputs (Ponsignon, Smart & Maull, 2012).

The distinctive contribution of UST lies in the codification and application of the notion of customer inputs (Trinh & Kachitvichyanukul, 2013). The basic purpose of UST is to amalgamate the services phenomena (service processes) in a manner that shows how they differ from non-services and how they share similar principles of management (Sampson, 2010). The theory explains the construct of customer resources, which consists of inputs from customers themselves, tangible items, and information provided by the customer (Hazée et al., 2020). In this study, UST takes the view of service operation with prominence on concepts associated to the service process. The service delivery proposal is therefore perceived as a process that entails (at least one) interaction between the client and the provider.

### **2.2.2 Service Strategy Triad Theory**

This theory as conceptualized by Roth and Menor (2003) highlights that the service idea was conceptualized to meet the needs of a targeted marketplace, and the terms of a service concept determines the design decisions of a SDS (Trinh & Kachitvichyanukul, 2013). The theory brings two the operations and marketing perspectives into one picture (i.e. SDS and service concept) and emphasizes the requirement for an integrated service design approach (Ponsignon, 2010). The theory supports that strategic design choices are made based on

the competitive priorities chosen by the service organization and these priorities are embedded in the structural and infrastructural design choices made (Sharma, 2014).

This theory explains that process design attributes such as skills, staff preference, automation, front and back-office design depends on the extent of adaptation of the service conception (Ponsignon, Smart & Maull, 2012). This theory is suitable as it emphasizes on the prerequisite of alignment between the concept of a service and the design of a SDS (Jonsson et al., 2011). However, the theory offers little support in defining the design elements needed to implement the alignment (Trinh & Kachitvichyanukul, 2013).

The theory is key in operations studies as it expounds that the design of a SDS focuses on how value is offered and how services are delivered to targeted clients (Hazée et al., 2020). The model provides a widely mentioned basis for conceptualizing alignment of operations and marketing management and provides a preliminary point for studying the contingencies and attributes of the SDS (Jonsson et al., 2011). In this study, this theory highlights the need of fit or alignment between competitive priorities, strategic SDS choices and the realized service delivery system design for enhancing competitiveness and performance of a service organization.

### **2.2.3 General Systems Theory**

Bertalanffy (1969) developed the general systems theory (GST) as a multi-disciplinary model on every nature of a system, society and in several areas of science along with a basis where we can examine spectacles from a tactic, which is holistic (Mele, Polese, & Pels, 2010). The theory explains the dynamic interdependencies and interrelationships between system components and the link between the environment and organization.

According to the theory, a system is based on patterns and the structure of relationships that result from interactions between components (Lai & Huili, 2017). The GST describes a business through its setting and accentuates the significance of interaction of different actors. The theory focuses on a firm as a whole and entails studying an entity in terms of social and technical variables of a system (Chikere & Nwoka, 2015).

The GST indicates that an organization as a whole can be seen as a holistic system consisting of interconnected core business processes (subsystems) that are hierarchically within a process architecture (Ponsignon, Smart & Maull, 2007). Thus, corporate processes are consistent, cross-functional boundaries and focus on added value for customers (Mele, Pels & Polese, 2010). The theory indicates an effective system should not only define the interrelationship between system elements, but the manner under which services and products offered to customers' flows over the system. Hence, process that are properly designed centered on desired results and objectives creates an effective, versatile and a unified system (Barile & Polese, 2010).

According to the theory, operations management systems contains various internal subsystems that require being coordinated on an ongoing basis. As corporations grow, they are developing increasingly multifaceted subsystems that need to be coordinated with each other to convert inputs to outputs (Mele, Pels & Polese, 2010). Such interdependency can possibly become intricate that a smaller occurrence in a single subsystem can lead to unintentional concerns in a different place in the business (Chikere & Nwoka, 2015). In this study, the theory indicates that because organizational processes are a central element of the input-output transformation process that forms the pillar of operations management, it is thus important to adopt the systems theory to explain the SDS design.

### **2.3 Service Delivery Systems Design Components**

Roth and Menor (2003) postulates that a strategic SDS comprises of structural, infrastructural and integration choices. Jonsson et al. (2011) on the other hand suggest that design decisions rotate around the roles of individuals, equipment, technologies, layout, facilities, service procedures and services. This study thus considers the Roth and Menor (2003), SDS choices which typically describe three choices which includes structure (such as bricks and mortar), infrastructure (such as management policies and systems), and integration required during the design of the SDS.

Strategic structural design choices consist of decisions concerning physical features of the SDS (Seyitoğlu & Ivanov, 2020). This includes decisions related to “brick and mortar” facilities (layout, size, number, and location), technology, equipment, front and back room operations, distribution channels, network configuration. These decisions take into consideration type of customer contact in order to deliver the intended service (Sharma, 2014). Structural decisions ascertain the key features of a physical system of delivery, comprising amenities, layout, equipment, network configurations and technology for service delivery (Dellana & West, 2020).

Infrastructural choices symbolize the role played by human resources in a SDS and consist of individuals, procedures, policies, performance systems and processes (Seyitoğlu & Ivanov, 2020). Infrastructural strategic choices consist of decisions regarding policies, procedures, processes and people. This includes decisions on workforce management, service quality management, performance management service (Voss, Roth & Chase, 2008). The infrastructural design largely relates to performance management, leadership



and people. They describe the appropriate attributes of employees and the entity practices, policies and practices (Dellana & West, 2020).

Integration decisions describe the coordination, adaption and learning mechanisms as well as the nature of the service chains. It entails a strategic design options collection that define the realized SDS (Dellana & West, 2020). Roth and Menor (2003) also identifies integration choices as an element of strategic service delivery system design choices. These integration choices are meant to achieve external as well as internal integration. Internal integration includes the fit between competitive priorities, structural and infrastructural choices and performance. Integration choices are concerned with achieving adaptive mechanisms, external and internal integration and among them, internal integration explains the strategic fit between operational and business performance objectives (Sharma, 2014).

## **2.4 Operational Performance Indicators**

Measuring operational performance helps assess the long-term impact of results on enhancing competitiveness and decision-making (Hwang, Han & Chang, 2020). The operational performance principal places large emphasis on quality, innovation, maximum resources conversion, timely service/product delivery, regulatory compliance and environmental responsibility (Azim, Ahmed & Khan, 2015). Several authors have proposed various operational performance indicators such as cost, flexibility, delivery dependence, quality, time, utilization and efficiency. This study will adopt the commonly used measures of cost, quality, delivery and flexibility.

The operational cost measures are related to operating efficiency which emphasis on cost saving and increased profits. Operational efficiency denotes the company's ability to save costs and time, whereas cost-based efficiency entails of quality, costs, production and service costs while time-efficiency is related to the speediness of product delivery (Sylva, 2020). Cost effectiveness lies in cost reduction and continual improvement rather than cost control. The word cost reduction can be used instead of cost-effectiveness. Cost efficiency lies in the measures that executives undertake to cut costs. Some of these actions have priority based on information retrieved from the accounting system (Ndanusa & Ogohi, 2020).

Quality is a reliability measure of the corporation's control system and shows the degree of trust from the raw input to the end product/service (Hwang, Han & Chang, 2020). Quality is the degree extent of reliability, durability, superiority, functionality, and overall product or service excellence leading to favorable consumer experience (Ndanusa & Ogohi, 2020). Quality denotes the extent in which a product meets the expectation of users. Quality is an indicator of the products desirable attributes. Thus, service quality is the key operational performance which denotes the observed dissimilarity between client anticipation and service efficiency (Sylva, 2020).

Delivery (speed) is an indicator that denotes the capability to provide products/services to customers on timely basis (Liu et al., 2020). Delivery denotes an entity's capacity to supply product and services to its clients in a swift and well-timed style or to fine-tune the entity assets to address the varying clients' emergencies and preferences (Neely, 2007). Speed denotes the time required to effect quotes, time used for delivery (delivery speed), delivery frequency, time used for production (production speed) and time used for novel product

development (Hwang, Han & Chang, 2020). Service entities try to shorten the time when a client placing a request or order and receiving it (Sylva, 2020).

Flexibility is a company's ability to effortlessly restructure and reapportion resources in an economical way to address continuous demand variabilities, product mixes, and program (Liu et al., 2020). Flexible companies respond quickly to customer time changes, cost and value with minimal penalties. Flexibility gives businesses a competitive advantage by helping organizations optimize costs and uptime and find different ways to quickly react to changing customer and market requirements (Sylva, 2020). Flexible corporations take into account the different needs of customers in such a way that the production volume and product mix are varying (Hwang, Han & Chang, 2020).

## **2.5 Service Delivery Systems Design and Operational Performance**

Dellana and West (2020) examined the significance of service design component's alignment and its influence on corporations' profitability. The study focused on SDS design employed by domestic firms in the U.S. airline industry. The authors adopted a fixed effects regression procedure analysis for analyzing data. The outcomes showed that service design elements significantly affected service firms' profitability.

Hazée et al (2020) examined how an SDS design affects management of risks in shared-based product service systems. The study collected data from 56 respondents using semi-structured interviews. The study revealed infrastructural and structural strategic choices affected the firms risk mitigating strategies and enhanced the value perceived by customers in a shared economy. The study also found that service delivery system choices influenced customers' perceptions and trust in the various actors involved in the SDS design.

Omar and Kilika (2018) examined the link between SDS practices and Kenyan banking entities profitability. The paper employed a descriptive survey and questionnaire to gather data from 100 respondents with the regression technique being adopted for analyzing data. The authors' outcomes revealed a positive and a significant link between service quality, employee involvement, service culture practices and bank profitability.

Awinja (2015) examined the how service delivery channels affect Kenyan banks operational performance. The author adopted a causal study design and employed secondary data sources the banks accounting reports with regression being adopted for analysis. The paper found that service delivery channels like ATMs, mobile banking led to a reduction in costs and enhanced the banks operational performance.

Fazlzadeh et al (2012) examined whether service delivery systems affect performance of the service oriented profit chain models. Data was collected from data stock brokerage firms in Iran with analysis being undertaken through the regression model. The study outcomes documented that SDS design significantly affected customer loyalty and design. Further, the study documented that employee capabilities, customer satisfaction and loyalty significantly affected the stock brokerage firms' performance.

Taye (2014) assessed the effect service delivery systems and client satisfaction. The paper's context was the Ethiopian logistics and shipping enterprise sector. The study employed questionnaires and interview guides for data collection from a sample that comprised of the management, junior employees and customers. Descriptive statistics were employed for analysis. The outcomes showed that customers were dissatisfied with the various derive quality dimensions adopted by the firms.

Tima (2013) examined whether the service design of an information system influences service delivery. The study was undertaken at Barclays bank in Kenya and with questionnaires being used to collect data. The study documented that information system service design had a number of benefits which added value to customers. However, the design of the information system faced several constraints' like front and back office integration, ensuring the system effectiveness and design, enhancing the systems downtime and incorporation of customer preference. The study concluded that an effective IS service design enhanced service delivery.

## **2.6 Summary of Literature Review**

The study reviewed a number of studies among them Dellana and West (2020), Hazée et al (2020), Omar and Kilika (2018), Awinja (2015) among others. The study however established a number of research gaps from the past studies. Table 2.1 depicts the summary of the study gaps.

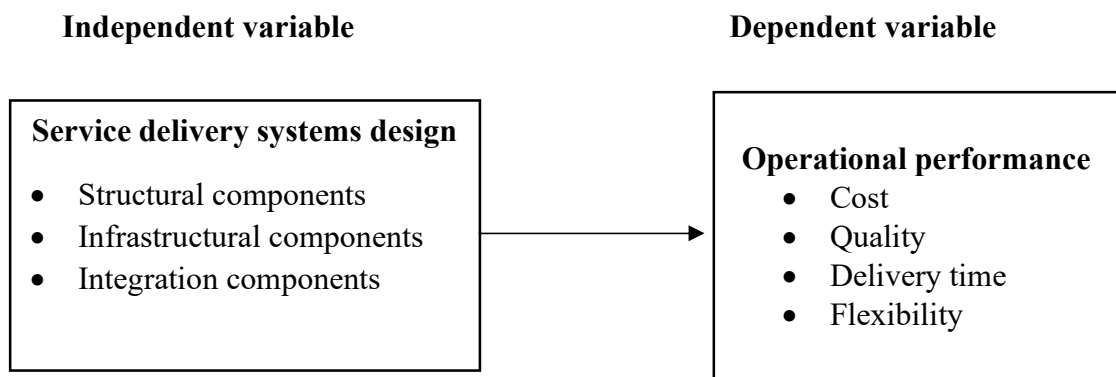
**Table 2.1: Summary of Research Gaps**

<b>Author (s)</b>	<b>Focus of the study</b>	<b>Methodology</b>	<b>Findings</b>	<b>Knowledge gaps</b>
Dellana and West (2020)	Service design elements and its effect on airlines profitability	A fixed effects regression model	Service design elements had a significant relationship with service firms' profitability.	The study context was U.S airline firms thus the findings may not be applicable to banks
Hazée et al (2020)	SDS design effects on management of risks in shared-based product service systems	Descriptive statistics	Structural and infrastructural design choices affected firm risk mitigating strategies and enhanced customer-perceived value	The study concentrated on risks as opposed to operational performance. The study's context was not banks
Omar and Kilika (2018)	SDS practices and banking entities profitability	OLS	A direct linkage between SDS and profitability	This study focused more on service delivery practices and not SDS design
Awinja (2015)	Service delivery channels and operational performance	Correlation and regression model	Service delivery channels led to a reduction in costs and enhanced the banks operational performance	The study focused more on service delivery channels like ATM, mobile and internet banking
Fazlzadeh et al (2012)	Effect of SDS on organization performance	Service profit chain model	SDS significantly affected customer satisfaction and loyalty.	The context was quoted entities and not commercial banks
Tima (2013)	IS service design and service delivery among customers	Case study design	IS service design significantly affected delivery of services	A case study was employed and focused on a single bank and not all Kenyan banks

**Source: Author (2022)**

## 2.7 Conceptual Framework

A conceptual model is a series of constructs that depict statements describing an event, process, or object. This study's independent variable is service delivery system design that consists of structural, infrastructural and integration components while the dependent variable is operational performance indicators in terms of cost, quality, flexibility and delivery. Figure 2.1 depicts the study's conceptual model.



**Figure 2.1: Conceptual Framework**

**Source: Author (2022)**

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

The study methodology refers to the procedural framework in which a study will be carried out. This section thus entails the study design, study population, data collection and analysis procedures.

### **3.2 Research Design**

A study design is a blue print or structure for undertaking a research and depicts all the information required to answer the study questions (Cooper & Schindler, 2014). A cross-sectional survey was adopted for this research. A cross-sectional design is an approach in which a researcher investigates a population's state of affairs at a specific time period (Cooper & Schindler, 2014). Cross-sectional research design involves the endeavor to gather data from an intended population with the aim of determining the existing state of the population in relation to a particular variable or variables. In addition, cross-sectional research design permits a researcher to assess the possible differences.

### **3.3 Population of the Study**

The Kenyan-banking industry as at December 31, 2020, comprised of 42 banking institutions (41 banks and 1 Mortgage Company). The population thus entailed the 42 Kenyan banks as at 31 December 2021. This study utilized a census design to select the 42 Kenyan banks and the unit of analysis was commercial banks operational managers or their equivalents. Cooper and Schindler (2014) suggests that data collection through a census enables a researcher to undertake an intensive research about a problem; in addition, it offers for a high degree of accuracy and is very suitable for a heterogeneous population.



### 3.4 Data Collection

This research employed primary data. The data was collected via a questionnaire. The questionnaire was categorized into three sectors where the first part gathered data on the bank's general information. The second and the third sections included Likert scale based questions and gathered data on the service delivery systems design well as operational performance. The questionnaires were dropped to the bank's operational managers or their equivalents and picked after two weeks. A questionnaire remains an effectual tool of collecting an all-encompassing data from a big sample and is generally easy to analyze.

### 3.5 Data Analysis

Descriptive and inferential statistical tools were adopted for analysis using the SPSS statistical software. In descriptive statistics, metrics like average, standard deviation, minimum and maximum are adopted for summarizing data. Inferential statistics will comprise the multiple regression analysis, which was employed to examine the interrelationship between the response, and explanatory variable. The regression model was framed as follows

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;

$Y$  = Operational performance

$X_1$  = Structural components

$X_2$  = Infrastructural components

$X_3$  = Integration components

$\beta_0$  = Constant

$\beta_1 - \beta_3$  = Regression coefficients

$\varepsilon$  = Error term

## **CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION**

### **4.1 Introduction**

This segment highlights the finding of the gathered data, findings and discussion's of the results. Specifically, the chapter includes the response rate results, the background data results, the summarized findings on service delivery systems design (structural, infrastructural and integration) components and operational performance. The section finally present the regression results and the findings interpretations.

### **4.2 Response Rate**

In this research, a census of the 42 banking institutions in Kenya was undertaken. However, complete data was gathered from 36 banks that led to 85.7% response rate that was deemed sufficient since it was more than 50%. According to Babbie (2004), 50 percent response rate is reasonable for publication and analysis, 60 percent are good whereas 70 percent are excellent as depicted in Table 4.1.

**Table 4.1: Response Rate**

	<b>Frequency</b>	<b>Percent</b>
Questionnaires returned	36	85.7
Unresponded questionnaires	6	14.3
Total	42	100

**Source: Study Data (2022)**

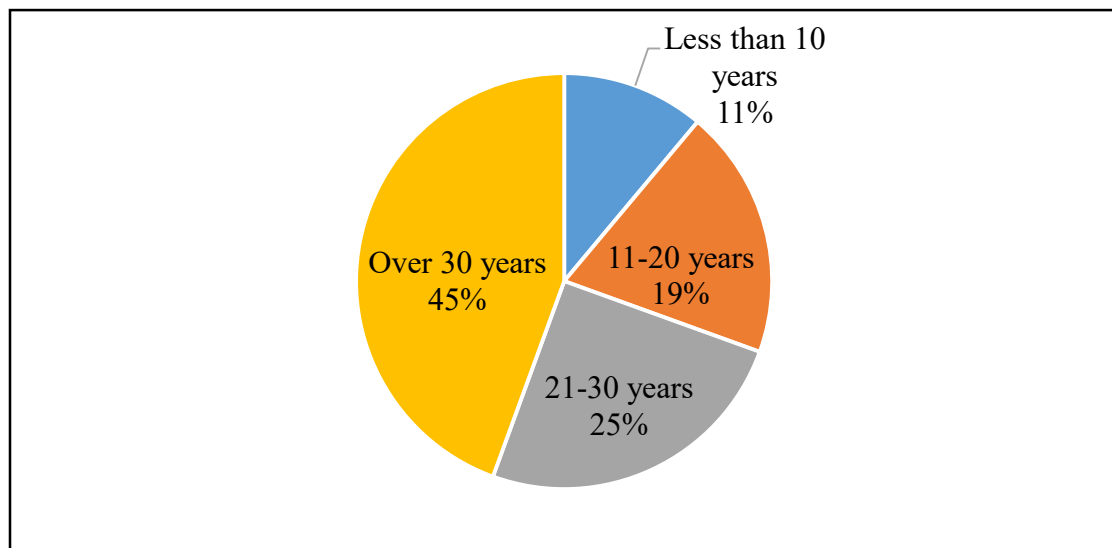
### 4.3 Background Information

This segment shows the results on the age of the banks, number of employees, the banks' ownership structure and number of branches

#### 4.3.1 Age of the Banks

Under this section, the period the banking entities had been in existence were assessed. The period in operation depicts the quantity of experience the firms have accrued over the years.

Figure 4.1 shows the results.



**Figure 4.1: Age of the Banks**

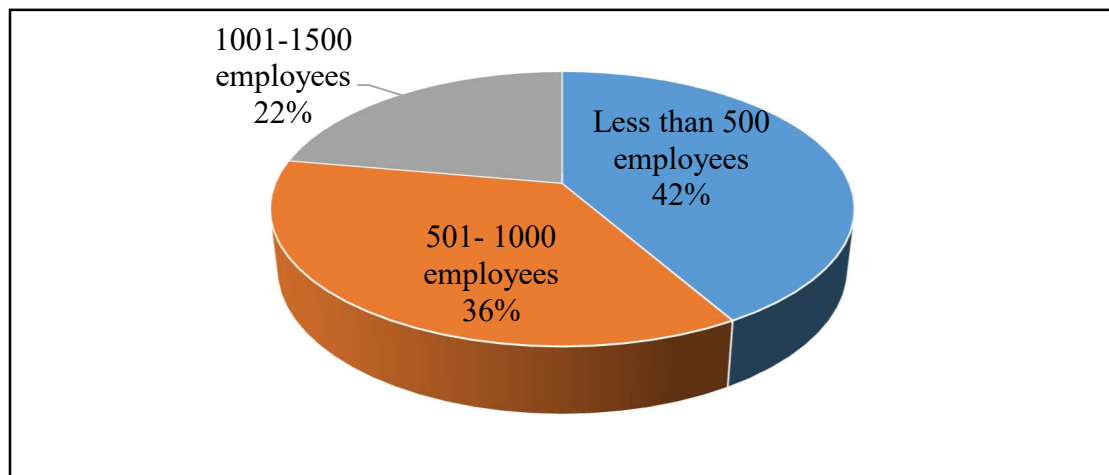
**Source: Study Data (2022)**

Figure 4.1 shows that majority (45%) of the banks had operated 30 years and above whilst 25% operated for 21-30 years. Further, 19% had operated for 11-20 years whereas 11% had operated for less than 10 years. The finding indicates that on average most of the banking entities had operation for over a period of 10 years indicating that they had

sufficient industry experience regarding SDS design components as well as the industry operational performance.

#### 4.3.2 Number of Employees

This part examined the number of staff among the sampled banking entities. The number of personnel in a firm is a proxy of bank size. Figure 4.2 depicts the findings.



**Figure 4.2: Number of Employees**

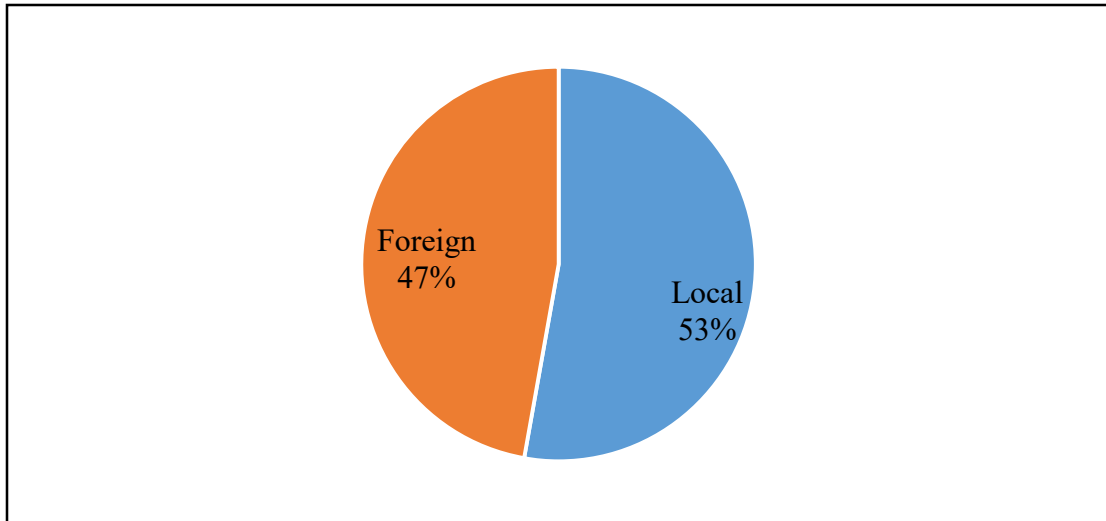
**Source: Study Data (2022)**

Figure 4.2 indicates that majority (52%) of the banks had less than 500 employees while 36% had 501-100 employees whereas 22% had 1001 – 150 employees. The outcomes show that most banks had more than 500 employees hence an indication that the banking sector is key sector towards employment contribution in Kenya.

#### 4.3.3 Ownership Structure of the Banks

This section sought to determine the number of banks that are locally and foreign owned.

Figure 4.3 shows the results



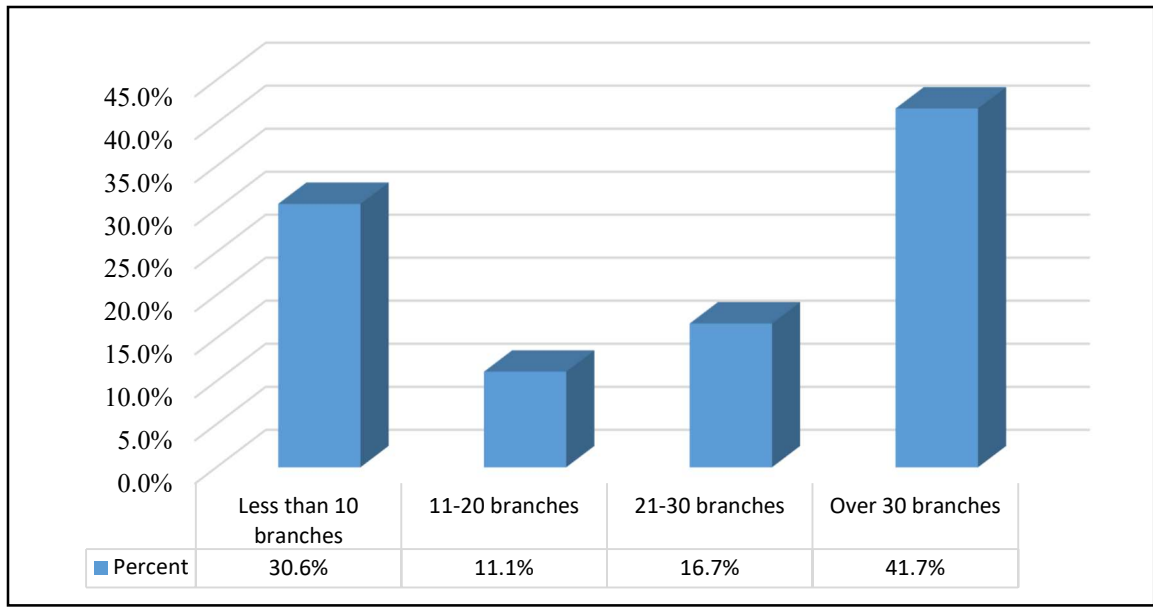
**Figure 4.3: Ownership Structure of the Banks**

**Source: Study Data (2022)**

Figure 4.3 depicts that 53% of the Kenyan banking entities were locally owned while 47% were foreign owned. The findings indicate that that majority of the Kenyan banks are locally incorporated however foreign bank also hold a large share of the Kenyan market.

#### **4.3.4 Number of Branches**

Figure 4.4 shows the results on the branches operated by the sampled banking institutions in Kenya.



**Figure 4.4: Number of Branches**

**Source: Study Data (2022)**

Figure 4.4 depicts that 41.7% of the Kenyan bank had more than 30 branches while 30.6% had less than 10 branches. Further, 16.7% had 21-30 branches while 11.1% had 11-20 branches. On average the results indicates that most of the banks had more than 10 branches across the country.

#### **4.4 Service Delivery Systems Design Components**

This section sought the views of the respondents on the service delivery systems design components adopted by their banks. Respondents were requested to answer different questions on a scale of 1-5, where 1 indicated strongly disagrees, 2 denoted disagree, 3 represented a neutral opinion, 4 and 5 represented agree and strongly agree respectively. This study placed emphasis on structural, infrastructural and integration components. Section 4.4.1, 4.4.2 and 4.4.3 depicts the outcomes.

#### 4.4.1 Structural Components

**Table 4.2: Structural Components**

Statement	1 F (%)	2 F (%)	3 F (%)	4 F (%)	5 F (%)	Mean	Std. Dev
Appropriate technology and equipment ensures that a SDS aids banks to realize the service concept.	0	2 (4.8%)	6 (14.3%)	20 (47.6%)	14 (33.3%)	4.1389	.68255
Capacity planning by banks represent a wealth of potential benefits and facilitates customer acquisition and retention	0	3 (7.1%)	5 (11.9%)	22 (52.4%)	12 (28.6%)	4.2122	.59094
Appropriate design of a bank's layout and facilities enhances the effectiveness of operations strategy and the service design	0	5 (11.9%)	1 (2.4%)	21 (50.0%)	15 (35.7%)	4.2501	.55420
Service product-process interfaces induce appropriate responses that engage bank customers in notable and meaningful ways	0	0	5 (11.9%)	26 (61.9%)	11 (26.2%)	4.0125	.43916
A service system physical features should be conjointly considered to effectually conceive the service delivery system	0	4 (9.5%)	5 (11.9%)	21 (50.0%)	12 (28.6%)	4.1944	.57666
Composite mean and standard deviation						4.1616	.56870

**Source: Study Data (2022)**

Table 4.2 depicts that the majority of the respondents agreed that appropriate technology ensures that a SDS permits banks to realize the service concept (mean=4.1389;

SD=0.68255) and that capacity planning represent a wealth of potential benefits and facilitates customer acquisition and retention (mean=4.2122; SD=0.59094) correspondingly. The participants further agreed that appropriate design of a bank's layout and facilities enhances the effectiveness of operations strategy and the service design (mean=4.2501; SD=0.55420) and that service product-process interfaces induce appropriate responses that engage bank customers in notable and meaningful ways (mean=4.0125; SD=0.43916) respectively. Further the participants agreed that a service system physical features should be conjointly considered to effectually conceive the service delivery system (mean=4.1944; SD=0.57666) respectively. The composite mean value of 4.1616 (SD=0.56870) indicates that the Kenyan banking entities had implemented various structural facets of the SDSs.

The above analysis implies that adoption of appropriate service delivery technology allows banks to attain the service concept and facilitates customer acquisition and retention. Further, the findings indicate that appropriate structural design regarding bank's layout and facilities enhances the effectiveness of operations strategy and service product-process interfaces induce appropriate responses that involve bank clients in notable and meaningful means. In addition, the findings imply that physical features of a service system should be considered conjointly to effectually conceive the service delivery system.



#### 4.4.2 Infrastructural Components

**Table 4.3: Infrastructural Components**

Statement	1 F (%)	2 F (%)	3 F (%)	4 F (%)	5 F (%)	Mean	Std. Dev
Effective performance systems lead to high service quality levels in terms of tangible technical quality	0	4 (9.5%)	7 (16.7%)	19 (45.2%)	12 (28.6%)	4.1389	.68255
Interaction between bank employees and bank activities are necessary for producing and delivering the service outcome	0	4 (9.5%)	4 (9.5%)	23 (54.8%)	11 (26.2%)	4.1121	.62234
Adopting best practices helps banks to constantly offer high quality services that enhance customer retention and satisfaction	0	3 (7.1%)	6 (14.3%)	27 (64.3%)	6 (14.3%)	4.0278	.50631
Customers evaluate services positively when the bank processes are effectively providing the promised value	0	5 (11.9%)	4 (9.5%)	23 (54.8%)	10 (23.8%)	4.1494	.57666
Bank competitiveness depends on the alignment of it policies with the service delivery system design	0	0	10 (23.8%)	22 (52.4%)	10 (23.8%)	4.0734	.64918
Composite mean and standard deviation						4.1003	.60741

**Source: Study Data (2022)**

Table 4.3 depicts that the participants agreed that effective performance systems lead to high service quality levels in terms of tangible technical quality (mean=4.1389; SD=0.68255) and that interaction between bank employees and bank activities are necessary for producing and delivering the service outcome (mean=4.1121; SD=0.62234) correspondingly. The results also show that the respondents agreed that adopting best

practices helps banks to constantly offer high quality services that enhance customer retention and satisfaction (mean=4.0278; SD=0.50631) and that customers evaluate services positively when the bank processes are effectively providing the promised value (mean=4.1494; SD=0.57666) respectively. Further, the participants agreed that bank competitiveness depends on the alignment of it policies with the service delivery system design (mean=4.0734; SD=0.64918) respectively. The composite mean value of 4.1003 (SD=0.60741) indicates that the Kenyan banking entities had implemented various infrastructural components of the service delivery system design.

The above analysis implies that effective performance systems lead to high service quality levels and that interaction between bank employees and bank activities are necessary for producing and delivering the service outcome. The results also imply that adopting best practices helps banks to constantly offer high quality services; customers evaluate services positively when the bank processes are effective and bank competitiveness depends on the alignment of it policies with the service delivery system design.

### 4.4.3 Integration Components

**Table 4.4: Integration Components**

Statement	1 F (%)	2 F (%)	3 F (%)	4 F (%)	5 F (%)	Mean	Std. Dev
Operations coordination facilitates the operationalization of a banks strategic vision	0	3 (7.1%)	5 (11.9%)	27 (64.3%)	7 (16.7%)	4.2778	.51331
Technology integration enables banks to deliver different services to its different clientele.	0	5 (11.9%)	7 (16.7%)	20 (47.6%)	10 (23.8%)	4.0833	.43916
Learning and adaptive mechanisms helps banks to achieve external integration, internal integration and adaptive mechanisms	0	3 (7.1%)	7 (16.7%)	16 (38.1%)	16 (38.1%)	4.1298	.59295
Service supply chains integrate the strategic intent of a bank with the operational aspects of service execution	0	3 (7.1%)	8 (19.0%)	18 (42.9%)	13 (40.0%)	4.1667	.73679
Composite mean and standard deviation						4.1644	.57055

**Source: Study Data (2022)**

Table 4.4 depicts that the participants agreed that operations coordination facilitates the operationalization of a banks strategic vision (mean=4.2778; SD=0.51331) and that technology integration enables banking entities to deliver different services to its different

clientele (mean=4.0833; SD=0.43916) correspondingly. The participants further agreed that learning and adaptive mechanisms helps banks to achieve external integration, internal integration and adaptive mechanisms (4.1298; SD=0.59295) and that service supply chains integrate the strategic intent of a bank with the operational aspects of service execution (mean=4.1667; SD=0.73679) respectively. The composite mean value of 4.1003 (SD=0.60741) indicates that Kenyan banking entities had implemented various integration aspects of the SDS design.

The above analysis implies that operations coordination facilitates the operationalization of a banks strategic vision and that technology integration enables banking entities to deliver different services to its different clientele. Further, the analysis implies that learning and adaptive mechanisms helps banks to achieve external integration, internal integration and adaptive mechanisms and that service supply chains integrate the strategic intent of a bank with the operational aspects of service execution.

#### **4.5 Operational Performance**

Under this section, various operational performance indicators were assessed to determine the degree to which the banks performance had improved.

**Table 4.5: Operational Performance**

<b>Indicator</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Mean</b>	<b>Std. Dev</b>
	<b>F (%)</b>	<b>F (%)</b>	<b>F (%)</b>	<b>F (%)</b>	<b>F (%)</b>		
Reduction in costs	0	7 (16.7%)	11 (26.2%)	18 (42.9%)	6 (14.2%)	3.6389	.59295
Improvement in the quality services	0	2 (4.8%)	4 (9.5%)	19 (45.2%)	17 (40.5%)	4.1944	.70991
Speed in delivering services	0	0	8 (19.0%)	17 (40.5%)	17 (40.5%)	4.1389	.76168
Service flexibility	0	0	9 (21.4%)	16 (38.1%)	17 (40.5%)	4.0278	.81015
Composite mean and standard deviation						4.0525	.71867

**Source: Study Data (2022)**

Table 4.5 illustrates that Kenyan banking entities had moderately reduced costs (mean=3.6389; SD=0.59295) but had recorded a larger improvement in the quality of services (mean=4.1944; SD=0.70991) respectively. Further, the Kenyan banking entities had largely enhanced their speed of delivering services (mean= 4.1389; SD=0.76168) and services flexibility (mean= 4.0278; SD=0.81015) respectively. The composite mean value of 4.1003 (SD=0.60741) indicates that the operational performance of the Kenyan banking entities was largely good.

#### **4.6 Regression Analysis**

Regression was undertaken to assess the interrelationship between the explanatory (structural, infrastructural and integration components) and the response variable (operational performance). The findings were documented as follows.

#### 4.6.1 Model Summary

**Table 4.6: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.576 <sup>a</sup>	.332	.269	.26543

a. Predictors: (Constant), Integration components, Infrastructural components, Structural components

**Source: Study Data (2022)**

Table 4.6 indicates that the studied SDS design components (structural, infrastructural and integration components) explains 33.2% of the variation of operational performance. This is shown by the R-square value of 0.332 (33.2%). On the other hand, the findings indicates that 66.8% of the variation is accounted for other indicators that not incorporated in the research.

#### 4.6.2 Analysis of Variance

**Table 4.7: Analysis of Variance**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.120	3	.373	5.301	.004 <sup>b</sup>
	Residual	2.255	32	.070		
	Total	3.375	35			

a. Dependent Variable: Operational performance

b. Predictors: (Constant), Integration components, Infrastructural components, Structural components

**Source: Study Data (2022)**

Table 4.7 depicts that regression is suitable and statistically significant for the study. This is shown by the value of F-statistics (5.301) which is statistically significant (P-value = 0.004<0.05) at 5% significance level.

### 4.6.3 Regression Coefficients

**Table 4.8: Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.318	1.406		-.938	.355
1 Structural components	.432	.142	.451	3.049	.004
Infrastructural components	.373	.098	.078	3.806	.002
Integration components	.472	.166	.426	2.834	.008

a. Dependent Variable: Operational performance

**Source: Study Data (2022)**

Table 4.8 shows that a positive (B=0.432) and significant (P-value=0.004<0.05) relationship exists between the structural components and operational performance of Kenyan banks. The results also indicate a positive (B=0.373) and significant (P-value=0.002<0.05) link exists between the infrastructural components and operational performance of Kenyan banks. Finally, the finding document that integration components have a positive (B=0.472) and significant (P-value=0.008<0.05) effect on operational performance. From the findings the following regression model was established

$$Y = -1.318 + 0.432X_1 + 0.373X_2 + 0.472X_3$$

Where; Y = Operational performance,  $X_1$  = Structural components,  $X_2$  = Infrastructural components and  $X_3$  = Integration components

#### **4.7 Discussion of the Findings**

The results indicated that structural components of the SDS positively and significantly influence operational performance of Kenyan banks. This implies that effective structural components of the SDS significantly increases Kenyan banking entities operational performance. A study by Lodorfos, Kostopoulos and Kaminakis (2015) documented a positive influence between the effectiveness of a SDS on service quality in terms of performance, effectiveness of process' control and coordination. Dellana and West (2020) documented that service design elements had a significant relationship to service firms' profitability. Tima (2013) concluded that an effective IS service design enhances service delivery.

Secondly, the study documented that the service delivery system infrastructural components significantly and positively influences the performance of Kenyan banks. This implies that infrastructural components of the SDS significantly increases Kenyan banking entities operational performance. A study by Mutitu (2014) revealed that the design of service delivery practices affected customer satisfaction. Fazlzadeh et al (2012) documented that SDS affect performance of the service oriented profit chain models. Taye (2014) documented that service delivery systems significantly affects customer satisfaction.

Further, the study revealed that service delivery system integration components positively affects Kenyan banks operational performance. This means that integration components of the SDS significantly increases Kenyan banking entities operational performance. A study by Onguti (2017) documented a positive and significant interrelationship between service delivery systems affect supermarkets operational performance. Omar and Kilika (2018)



documented a direct link between SDS practices and bank productivity. Roth and Menor (2003) indicates that internal integration enhances the strategic fit between operational and business performance objectives.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

This section entails the findings summary, and gives the study conclusions and recommendations. The section also depicts the study limitations and suggestions for additional research.

### **5.2 Summary of the Findings**

This study aimed at determining the relationship between service delivery systems design and operational performance of Kenyan banking entities. The study grounded on the unified services theory, service strategy triad theory and general systems theory. A cross-sectional survey was adopted and undertook a census 42 Kenyan banks. The research employed primary data which was gathered via questionnaires which dropped and picked to the bank's operational managers or their equivalents. Descriptive statistical tools and the regression model were used for data analysis using the SPSS statistical software. Complete data was gathered from 36 banks, leading to 85.7% response rate.

The descriptive results on the structural components of the SDS documented that adoption of appropriate service delivery technology allowed banks to attain the service concept and facilitates customer acquisition and retention. Further, the findings documented that appropriate structural design regarding bank's layout and facilities enhances the effectiveness of operations strategy and service product-process interfaces induce appropriate responses that engage bank customers in notable and meaningful ways. In

addition, the findings revealed that the physical features of a service system should be considered conjointly to effectually conceive the service delivery system.

The descriptive results on the infrastructural components of the SDS revealed that effective performance systems lead to high service quality levels and that interaction between bank employees and bank activities are necessary for producing and delivering the service outcome. The results also revealed that adopting best practices helps banks to constantly offer high quality services; customers evaluate services positively when the bank processes are effective and bank competitiveness depends on the alignment of its policies with the SDS design.

The descriptive results on the infrastructural components of the SDS documented that operations coordination facilitates the operationalization of a bank's strategic vision and that technology integration enables banking entities to deliver different services to its diverse clientele. Further, the findings revealed that learning and adaptive mechanisms help banks to achieve external integration, internal integration and adaptive mechanisms and that service supply chains integrate the strategic intent of a bank with the operational aspects of service execution.

The regression results revealed that a positive ( $B=0.432$ ) and significant ( $P\text{-value}=0.004<0.05$ ) link exists between the structural components and operational performance of Kenyan banks. The results also indicate a positive ( $B=0.373$ ) and significant ( $P\text{-value}=0.002<0.05$ ) interrelationship exists between the infrastructural components and operational performance. Finally, the finding documents that integration components have a positive ( $B=0.472$ ) and significant ( $P\text{-value}=0.008<0.05$ ) influence on operational performance.

### **5.3 Conclusions**

The study results indicated that that the structural components of the SDS positively and significantly influence operational performance of Kenyan banks. As per this outcome concludes that effective structural components of the SDS significantly increases Kenyan banking entities operational performance. The study results also revealed that the service delivery system infrastructural components positively and significantly affects the Kenyan banks operational performance. As per this finding, the research concludes that infrastructural components of the SDS significantly increases Kenyan banking entities operational performance. Lastly, the study results documented that that service delivery system integration components positively and significantly affects Kenyan Banks operational performance. This paper thus concludes that the integration components of the SDS significantly increases Kenyan banking entities operational performance.

### **5.4 Recommendations**

This research concluded that effective structural components of the SDS significantly increases Kenyan banking entities operational performance. This study therefore recommends that Kenyan banking entities management should place emphasis on structural aspects of a physical delivery system including facilities, layout, equipment, network configurations and technology for service delivery to enhance their bank operational performance.

The study also documented that infrastructural components of the SDS significantly increases Kenyan banking entities operational performance. This research recommends that the Kenyan banking entities management should adopt appropriated infrastructural

strategic choices regarding policies, procedures, processes and people as such would enhance their banks operational performance

Lastly, the study concluded that integration components of the SDS significantly increases Kenyan banking entities operational performance. As per this observation, this research recommends that Kenyan banking entities management should integrated their banks competitive priorities, structural and infrastructural choices as such strategic fit enhances bank's operational and business performance.

### **5.5 Limitations of the Study**

This study targeted the 42 Kenyan banking entities but managed to gather complete data from 36 entities that led to 85.7 percent response rate. The study therefore did not attain a 100 percent response rates a shortfall that can be attributed to lack of cooperation by some of the entities staff. The study findings therefore were centered on the 36 banks that participated in the study.

This study also collected data using structured questionnaires, which had closed ended questions. This means that the respondents' qualitative views and opinions were not captured as such can only be obtained through open-ended questions or interviews. Data was also collected from bank's operational managers or their equivalents hence the views of junior managers and employees was not incorporated in the study.

Third, the study's context was Kenyan banking entities hence the results may not be generalized to other banks outside Kenya. Further, the findings may not be generalized to other financial entities such as microfinances, SACCOs and insurance firms that offer similar services as those of banks. Lastly, the study focused on structural, infrastructural

and integration components and their effects on Kenyan banking entities' operational performance. The study thus is limited to the studied variables and the specific measures that were used to assess them.

### **5.6 Suggestions for Further Research**

This study's model summary showed that structural, infrastructural and integration components of the SDS explained 33.2% of the variation of the Kenyan banking entities operational performance. This means there are other metrics that this study did not incorporate which affects the operational performance of Kenyan banks. This study makes a recommendation for research on determinants of Kenyan banking entities operational performance.

This study's context was commercial banks in Kenya. This delimited the scope and findings generalization to the Kenyan context. However, several other entities including microfinances, SACCOs and insurance firms that offer similar services as those of banking entities. A similar study can be undertaken to focus on other entities within the financial sector such as microfinances, SACCOs and insurance firms.

In addition, structured questionnaires were adopted for data collection. However, structured questionnaires contain closed ended questions, which require a particular response making it impossible to obtain an in-depth views and opinions of the respondents regarding the study variables. This study based on this observation recommends that a similar study be undertaken through other research instruments such as interviews that will incorporate qualitative views and opinions of managers.

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## APPENDICES

### Appendix I: Research Questionnaire

**Dear respondent,**

This questionnaire aims at obtaining data on the relationship between service delivery systems design and operational performance of commercial banks in Kenya. You are requested to answer all the questions in the questionnaire. The responses to this survey shall be treated confidentially and appropriately for the research only.

#### **Section I: Bank Profile**

1. Kindly indicate the number of years the firm has been in existence

Less than 10 years [ ]

11-20 years [ ]

21-30 years [ ]

Over 30 years [ ]

2. Kindly indicate the number of employees in your organization

Less than 500 employees [ ]

501- 1000 employees [ ]

1001-1500 employees [ ]

Over 1500 employees [ ]

3. Kindly indicate your bank's ownership structure

Local [ ]

Foreign [ ]

Both local and foreign [ ]

4. Indicate the number of branches your bank has \_\_\_\_\_

#### **Section II: Service Delivery Systems Design Components**

5. Using a 5-point, Likert scale where; 1-Strongly disagree; 2-Disagree; 3-Neutral; 4-Agree and 5-Strongly agree, kindly indicate your level of agree or disagreement with the following statements on service delivery system design choices.

<b>Structural components</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) Appropriate technology and equipment ensures that a service delivery system aids banks to realize the service concept					
b) Capacity planning by banks represent a wealth of potential benefits and facilitates customer acquisition and retention					
c) Appropriate design of a bank's layout and facilities enhances the effectiveness of operations strategy and the service design					
d) Service product-process interfaces induce appropriate responses that engage bank customers in notable and meaningful ways					
e) A service system physical features should be conjointly considered to effectually conceive the service delivery system					
<b>Infrastructural components</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) Effective performance systems lead to high service quality levels in terms of tangible technical quality					
b) Interaction between bank employees and bank activities are necessary for producing and delivering the service outcome					
c) Adopting best practices helps banks to constantly offer high quality services that enhance customer retention and satisfaction					
d) Customers evaluate services positively when the bank processes are effectively providing the promised value					
e) Bank competitiveness depends on the alignment of it policies with the service delivery system design					
<b>Integration components</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) Operations coordination facilitates the operationalization of a banks strategic vision					
b) Technology integration enables banks to offer a broad variety of services to its different customers					
c) Learning and adaptive mechanisms helps banks to achieve external integration, internal integration and adaptive mechanisms					
d) Service supply chains integrate the strategic intent of a bank with the operational aspects of service execution					

**Section III: Operational Performance**

6. Using a 5-point, Likert scale where; 1=No extent; 2= Little extent; 3= Moderate extent; 4=Large extent and 5= Very large extent, indicate the extent to which the listed operational performance areas have improved in the last two years in your organization.

<b>Indicator</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) Reduction in costs					
b) Improvement in the quality services					
c) Speed in delivering services					
d) Service flexibility					

**Thank you for your time**

## Appendix II: List of Commercial Banks in Kenya

1. Victoria Commercial Bank
2. UBA Bank
3. Standard Chartered Bank
4. Stanbic Bank
5. Spire Bank
6. Sidian Bank
7. SBM Bank
8. Prime Bank
9. Paramount Bank
10. NCBA Bank
11. National Bank
12. M-Oriental Commercial Bank
13. Middle East Bank
14. Mayfair Bank
15. Kingdom Bank
16. KCB
17. Imperial Bank
18. I & M Bank
19. HFC
20. Habib Bank
21. Gulf African Bank
22. Guardian Bank
23. Guaranty Trust Bank
24. First Community Bank
25. Family Bank.
26. Equity Bank
27. Ecobank Kenya
28. DIB Bank
29. Diamond Trust Bank
30. Development Bank
31. Credit Bank
32. Co-operative Bank
33. Consolidated Bank
34. Citibank N.A. Kenya
35. Chase Bank
36. Charterhouse Bank
37. Bank of India
38. Bank of Baroda
39. Bank of Africa
40. African Banking Corporation
41. Access Bank
42. ABSA