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Effects of Business Process Re-engineering on project implementation of Core Banking Software: a case of Kenyan commercial banks in Nairobi County.

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EFFECTS OF BUSINESS PROCESS RE-ENGINEERING ON PROJECT IMPLEMENTATION OF CORE BANKING SOFTWARE: A CASE OF KENYAN COMMERCIAL BANKS IN NAIROBI COUNTY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (MBA) AT STRATHMORE UNIVERSITY

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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the project contains no material previously published or written by another person except where due reference is made in the thesis itself.

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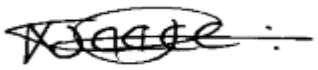
Signature:  Date: 30th October 2021

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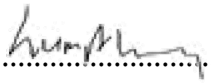
Supervisor

This research project has been submitted for examination with my approval as the University supervisor

Signature:  Date: 30.10.2021

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ABSTRACT

Today, Business Process Re-engineering (BPR) has become a necessity in the business world because it is considered one of the main effective approaches to introducing change and development in an existing business process. BPR is one of the most important solutions for organizational improvements in all business processes and performance measures. However, there are reports of high failure rates of 70% when not well administered. The main reason behind this is that the administration tends to be more focused on the process and ignores the surrounding environment. The other reasons are the lack of tools to identify the causes of the contradictions and inefficiencies. Even though numerous studies have been done on Business Process Re-engineering, none of them delineated the various BPR components and tried to ascertain their effect on the implementation of core banking software. The broad research objective of this study was to analyse the effects of business process re-engineering on project implementation of Core Banking Software at commercial banks in Nairobi County. Specific objectives were to examine the effects of Information Technology, Financial Resources, and Organizational Culture on the implementation of Core Banking Software at the Kenyan commercial banks in Nairobi County. A descriptive research design taking a quantitative approach was adopted because it establishes the relationship between the study variables. The target population was representative of the respective Kenyan commercial banks in Nairobi County from a population of 42 regulated banks. The study employed primary data, which was collected by the use of a close-ended online questionnaire. It was a cross-sectional study since data was collected across several units in a uniform time frame. Data was analysed through SPSS and interpreted through quantitative methods as per the research's objectives and questions. The study utilized descriptive statistics to gauge the existence of business process re-engineering key factors and implementation of core banking software. The researcher employed inferential statistics, including correlation analysis and multiple linear regression to analyse data collected during the study. The study found that information technology has a positive and significant influence on the implementation of Core Banking Software. The study also found that financial resources has a positive and significant influence on the implementation of Core Banking Software at the Kenyan commercial banks. Further findings revealed that organizational culture has a positive as well as a significant influence on the implementation of Core Banking Software at the Kenyan commercial banks. The study concludes that information technology, financial resources and organizational culture have a positive as well as a significant influence on the implementation of Core Banking Software at the Kenyan commercial banks. The study, therefore, recommended that commercial banks in Kenya should make use of information technology in the implementation of Core Banking Software. Banks should give priority to the allocation of funds for business re-engineering process. More so banks should consider building a culture of teamwork that is stable, risk-taking and result oriented.

Key Words: Business Process Re-Engineering, Information Technology, Financial Resources, Organizational Culture, Core Banking Software

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LIST OF ABBREVIATIONS/ACRONYMS

BLUP - Best Linear Unbiased Prediction

BPR - Business Process Re-engineering

CBK - Central Bank of Kenya

CBS - Core Banking Software

COVID-19 - Corona Virus

CSF - Critical Success Factors

ERP - Enterprise Resource Planning

HR - Human Resource

IT - Information Technology

KMO - Kaiser-Meyer-Olkin

MNO - Mobile Network Operators

OCPD - Officer Commanding Police Division

OCS - Officer Commanding Station

PU - Perceived Usefulness

PRH - Public Rental Housing

PEU - Perceived Ease of Use

SASRA - Sacco Societies Regulatory Authority

SCM - Supply Chain Management

SOE - State-Owned Enterprises

SPSS - Statistical Packages for Social Sciences

TAM - Technology Acceptance Model

TOE - Technology Organization Environment

VIF - Variance Inflation Factors

DEFINITION OF KEY TERMS

Business Process-Re-Engineering	The radical redesign of core banking processes to achieve dramatic process improvements operations and behavioral components of the organization (Omidi & Khoshtinat, 2016)
Financial Resources	Funds at the disposal of the enterprise in the form of cash, liquid securities, and credit lines to facilitate the implementation of core banking software (Hajdúchová, 2011; Tóthová et al., 2012)
Implementation of Core Banking Software	The use of data processing software applications to support and automate banking transactions (Skibniewski, 2007)
Information Technology	A combination of technologies utilized by banks to disseminate, store and process information enables automation of data processing (Vine, 2012)
Organizational Culture	An adopted way of providing banking services that outlines how certain activities are directed to achieve the goals of an organization (Bahreini, 2007)

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DEDICATION

To God almighty for this blessing. To my lovely wife Lydia Njaaga, your moral support and love that saw me through this process always kept tab on my progress unrelentingly. To my dear daughter Shania Njambi and my son Ethan Mbugua, may you learn the values of hard work, humility and perseverance. To my dear parents, Samwel Mbugua and Helen Njambi, who nurtured in me the seed of humility, hard work, integrity, perseverance, excellence and many more values. To my brothers Evans Mbugua and Julius Mbugua for encouraging me on this journey with confidence.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

This chapter introduces the study. It entails the background of the study enumerating the conceptual and contextual relationship among the study variables and the description and operationalization of the study variables. The chapter also includes the study's problem statement, which entails a concise description of the problem or issues the current research project seeks to address. The chapter also includes the problem statement, which entails the broad study objectives and aims that the current study seeks to achieve, which are accentuated by the research questions. Another section included in this chapter is the significance of the study to various stakeholders. The final sections included in this chapter are the scope and limitations of the study.

1.2 Background of the Study

Business Process Re-engineering (BPR) has become a necessity in the business world because it is considered one of the main effective approaches to introducing change and development in an existing business process. BPR is one of the most important solutions for organizational improvements in all business processes and performance measures (Kassahun, Molla, & Sarkar, 2011). However, there are reported cases of high failure rates of 70% when BPR is not well administered. The main reason behind this is that the administration tends to be more focused on the process and ignores the surrounding environment. The other reasons are the lack of tools to identify the causes of the contradictions and inefficiencies (AbdEllatif, et al. 2017). BPR has been suggested as a useful managerial tool to deal with technological changes and marketing changes in the current competitive markets. It leads to minimized operational costs across the process or the organization as a whole organization by analysing and redesigning workflow and processes within and outside the organization (Omidia & Khoshtinata, 2016).

Based on reform attempts on tax collection, such as the Revenue Administration Reform and Modernization Program, Odede (2013) found that Business Process Re-engineering implementation increased the Kenya Revenue Authority's organizational performance. Owino (2009) established that; cross-functionality of the project team, the process used by the project team to implement BPR, the expertise available to the project team regarding the processes being reengineered, the quality of the Information Technology (IT) support extended to the project; and the project leadership and motivation, are the Success Factors of implementing

BPR in Kenyan firms listed at the Nairobi Securities Exchange. Achieng (2014) established that BPR enhances the financial performance of Kenyan commercial banks.

BPR arose from the 1980s experiences of firms based in the United States. Their efforts to manage change and improve performance drastically transformed business processes by innovating with current information technology, such as enterprise resource planning (ERP). Since its inception two decades ago, BPR has been a buzzword in the business world, bringing in creative projects and cultural shifts. As a result, most companies that embraced BPR were able to gain a competitive advantage in the global economy (Martinsons& Hempel, 1998). According to Huang and Palvia (2001), change management and company culture had a crucial impact on BPR and ERP adoption in numerous countries.

Chen, He, and Tong, (2004) discovered that BPR is one of the key success factors (CSFs) of ERP deployment alongside ERP-SCM vision, executive support, and the ERP concept in a survey of 150 Chinese firms using a resource-based approach. In USA and China, high complexity and high costs are the main obstacles in the implementation of ERP. In China specifically, insufficiency in IT infrastructure, lack of incentives for State-Owned Enterprises (SOE), lack of well-trained workers, and different corporate cultures are the major obstacles towards the implementation of ERP (Chen, et al., 2004). Business process reengineering creates in people (Behaviour and culture), process and technology to support the business process growth sustainability (Bako & Banmeke, 2019). Key elements in BPR according to Khashman (2019) and Satyanarayana and Kavitha, (2011) include information technology, financial resources and organizational culture.

Information technology is the use, deployment and integration of IT related resources to automate existing business processes to enable a firm attain competitive advantage, enhance business processes, efficiency and effectiveness (Khashman, 2019). Financial resources entail the financial liquidity, operating funds and borrowing capacity and a firm's ability to generate internal funds is important in order to operate a stable and successful firm that enjoys maximum profits (Siano, et al., 2010). On the other hand, organisational culture refers to the business operation norms and values that guides the operation of an organisation (Syauta, Troena & Margono Setiawan, 2012). Organizational culture streamlines business processes, communication in the organizations, and guides organization's way of making viable decisions while enhancing workers commitment to the organisation. Though there are other

organizational capabilities like human resources and external environment which impact organization processes and growth, in the realm of BPR, information technology, financial resources and organizational culture are the key driving elements (Khong & Richardson, 2003; Khashman, 2019).

In Ethiopia since 2004, the government endorsed BPR to be considered as the third phase of a reform effort in strengthening the Civil Service Result Based Performance Management System. Systems Theory, Operations Management, and Scientific Management are the theoretical and the methodological foundations of BPR in this case (Debela, 2009). Afar region, one of the states is located in the North-Eastern part of Ethiopia. The region hosts several governmental sector bureaus providing services to communities (customers). Nevertheless, just like other government enterprises in Ethiopia, Afar region sector bureaus way of conducting businesses has been criticized as being old-fashioned and scattered tasks among various organizations units. Therefore, under the Ministry of Capacity Building, Afar regional sector bureaus have been involved in BPR projects in 2009.

According to Chepkorir (2018), following the adoption of BPR, Kenya Commercial Bank indicated significant growth in customer service. The bank has been restructuring its processes and systems constantly to solve common citizen problems and also those problems of products and services offering to make them more efficient and effective (Morogo, 2015). Customers are more informed than before demanding superior and quality services, deliveries that are fast, lower prices, and timely information so as to remain loyal and also enable them in decision making concerning purchases. Such reasons made KCB develop BPR as a strategy to get its long-term goals by deriving innovative mechanisms of offering optimum customer services thereby remaining competitive in the industry (Chepkorir, 2018).

1.2.1 Business Process Re-Engineering

Re-engineering of operations was introduced by Hammer and Champy (1993). Business process re-engineering is "the basic re-inventing and radical design of the new processes" to achieve remarkable improvements in contemporary critical measures, such as price, quality of service and speed (Omidi & Khoshtinat, 2016). This means that current processes are reviewed and redesigned carefully in order to make a function of an organization more effective and efficient. According to Kassahun, Molla, and Sarkar (2011), BPR is the act of recreating a core business process endeavoring to improve product output, quality, or costs reduction. Normally,

it entails analyzing the workflows of an organization, engaging sub-par or inefficient processes, and developing ways to change them or dispose of them.

Business process re-engineering should be supported through the modeling process because it is necessary to specify the process in the context of business processes re-engineering. Organizations compare business process models to determine common operational aspects and differences (Debela, 2009). The definite outlook of projects is very different from business operations, keeping re-appearing, permanent or semi-permanent tasks to develop services and products. In today's environment, business management and project management are distinct and necessitate the use of a variety of practical abilities and administrative procedures (Kassahun, Molla, & Sarkar, 2011).

Given the linkages between various tasks currently being developed by organizations, a set of metrics should be developed (Yaung, 1993). In phases of task analysis and process redesign, the metrics are used to analyse the validity of linkage, reachability, and connection. They are also used to evaluate present tasks of processes that a company wants to modify. The suggestion can be used in any type of organization, although it focuses solely on task relationships. There are two identified approaches to process reengineering: top-down approach, whereby processes are gotten from goals stated by organization leaders; down-top approach, in which identified current tasks are boosted. The mechanism is better aimed at those organizations having several already implemented tasks which must be redesigned to boost performance. Metrics from Yaung (1993) are targeted to assist the two phases of the down-top approach, the task analysis and then process design. The current study utilized; Information Technology, financial resources, and organizational culture as the aspects of Business Process Re-engineering.

1.2.2 Project Implementation

According to Gray, Larson, and Desai (2010), project management empowers people with key tools that improve their ability to plan, implement and manage activities to accomplish specific objectives. They purport that project management spans all work ranging from the construction industry, consulting, automotive to community projects. Through project management, social problems are resolved and complex issues are managed by assembling work teams to tackle a complex undertaking and turn it into a magnanimous venture. Projects do generally not start

by accident as they are carefully thought out and planned, hence understanding the project cycle. A project has a starting point and an endpoint. Kosura (2000) posits that a project has a cycle. This cycle begins at the project identification stage, followed by preparation, appraisal, selection, negotiation, financing, planning and implementation, reporting, evaluation, feedback, and culminating in the termination stage. All these stages are vital in the success of a project and hence should not be overlooked.

An important component of the project is the implementation methodology. In the implementation phase, the plans and visions become a reality. It refers to the logical conclusion, following evaluation, decision making, visioning, planning, funds application, and establishing a project's financial resources (Kosura, 2000). The Project implementation stage entails bringing the project plan into action. Here, project managers coordinate and also direct resources of the project towards meeting the project plan objectives. Additionally, the team operationalizes project work to generate deliverables in this project stage (Gray, Larson & Desai, 2010).

However, implementation milestones must be envisioned well during the project planning phase. This calls for a clear establishment of project objectives, choice of the right strategy for achieving this objective, clear breakdown of the project into manageable units, clear definition of performance matrix, establishing of adequate timelines for delivery of each unit, establishing of proper sequencing of various subunits, establishing a standard and clear schedule to manage all the activities avoiding any confusion and overlaps, designing proper staff organization and allocating each staff duties and responsibility for accountability, determining the cost involved, establishing the need for training and ensuring staff is adequately trained to safeguard the quality standards and establishing the necessary policies and procedures to guide the delivery of the project (Kosura, 2000).

It may be desirable to assess the success of a system project's implementation in terms of monetary costs and benefits. However, due to the difficulty in quantifying intangible system impacts and isolating system implementation effects from multiple intervening environmental variables that may influence an organization's performance, these measurements are rarely available (Calisir & Calisir, 2004; Chien & Tsaur, 2007; Wu & Wang, 2007). According to Chien and Tsaur (2007), the measures of system implementation are; satisfaction of the user, project schedule, goals, budget, and system quality. The aspects of the implementation of core

banking software utilized in the current study were; effectiveness and efficiency, customer and end-user satisfaction, system availability and support, efficient throughput and turnaround time, transition and change management levels, and staff turn-over.

1.2.3 Factors for Business Process Re-Engineering

According to Ahmad, Francis, & Zairi, (2007) the BPR factors are IT, adequate financial resources, teamwork, and quality culture, quality management system and satisfactory rewards, effective change management, less bureaucratic and participative management, effective project management. Success factors for BPR in project implementation to be analysed in the study are compressed into; IT, financial resources, and organizational culture. This is because the rest are inbuilt into these three. For example, organizational culture covers teamwork, bureaucracy in the organization, and partly changes management while financial resources cover satisfactory rewards.

As per Castells (1996), IT is a combination of microelectronics, computing (hardware and software), telecommunications, broadcasting, and optoelectronics. According to Kleis, et al. (2012), IT is a group of technologies used to disseminate, store and process information enabling the execution of information-related human actions and serving both public institutions and the private sectors. In addition, IT is a general term that defines merging a wide collection of new technologies currently being used in the creation, processing, and transmission of information within corporations and between traders in the business-to-business relationship (Lai, 2011). IT greatly affects the modern business environment; it focuses on data and information storage (Rahrovani & Pinsonneault, 2012).

Working together, BPR and IT have the potential to create more flexible, coordinative, team-oriented, and communication-based work capabilities (Whitman, 1996). IT is more than a collection of tools for automating or mechanizing processes. It can fundamentally reshape the way business is done and enable the process design. In leading-edge practices, information technology makes BPR possible and worthwhile. Given the growing dominance of services, their recursive relationship requires further analysis and redesign (Hammer & Champy, 2001).

Financial resources are the funds at the disposal of the enterprise and intended for the implementation of the current costs and expenses for expanded reproduction, for the fulfillment of financial obligations and economic incentives for employees (Hajdúchová, 2 11; Tóthová et

al., 2012). A business enterprise must possess the financial backbone to implement a Business Process Re-engineering (BPR) project successfully. Financial capacity is necessary to undertake radical changes to enhance an organization's information systems and information technology systems (Burgess, 1998). Additionally, a high percentage of own resources makes the company stable and independent; on the other hand, if the percentage is low, instability of the company; thus, market fluctuations and insecurity of creditors can have serious consequences (Tóthová et al., 2 12; Hajdúchová, 2011).

Organizational culture is the common belief in an organization. The deeper and more common beliefs are, the more powerful the culture is, the more different and less common the beliefs are, and the weaker the organizational culture will be. In general, culture in the organization determines the organization's intellectual and ethical boundaries and creates a sense of identity among members (Bahreini, 2007). The influence of various forms of culture on the business reengineering process is rapidly emerging as a critical success factor. The culture of an organization may be an enabler or an inhibitor even to initiate BPR. Organizational culture comes to the fore in order to create a new corporate style that helps the necessary changes to be introduced (Johnson et al., 2011).

1.2.4 Commercial Banks in Kenya

Companies Act, Banking Act, Central Bank of Kenya, and the CBK rules regulate Kenya's Banking sector. CBK is in charge of implementing liquidity development and financial policies, as well as the proper operation of the monetary system and creditworthiness. Banks are financial institutions that are licensed by the CBK to collect customer deposits and provide credit to consumers. As of June 30, 2020, Kenya had 41 commercial banks and one mortgage monetary organization (Central Bank of Kenya, 2020). Thirty-nine are owned by locals, while thirteen are held by foreigners. Kenyan commercial banks play a vital role in Kenyan society as they contribute to the nation's financial development by availing resources for investments and financial inclusion in the country (Oloo, 2013).

In the present generation, banking services are increasingly vibrant, and the banks' senior management must evolve and adapt to these changes to stay abreast with the competition. With the adoption of digital frameworks like mobile, internet, and agency banking, traditional banking channels via brick and mortar are becoming unpopular (Chairlone, 2009). Following

an outbreak of the Corona Virus (Covid-19) in China in late 2019 caused a global Pandemic forcing lock-down on countries, schools, businesses, and most institutions. The banking sector had to quickly adapt delivery channels to promote cashless transactions to contain the virus's spread. Core Banking Software (CBS) vendors had to carefully and rapidly develop and implement solutions to ensure banks provide a platform for their customers to continue transacting and keep the economy afloat (Sansa, 2020).

The banking industry is also faced with external competition from telecom companies where customers have access to alternative 'banking' services like MPESA and Airtel Money from Mobile Network Operators (MNO) like Safaricom PLC and Airtel Kenya. The insurance companies are also offering flexible products like money market funds which divert deposits from the banking space making it difficult for banks to mobilize public deposits (Ffrey, 2020).

1.2.5 Core Banking Software

Core banking software solutions have transformed the way banks operate. Before introducing core banking software solutions, for instance, different branches of a bank used to operate through their local servers. The exchange of information between the different branches of the same bank was limited to one time in a day, which led to a sluggish business process, and, therefore, banking was complicated and considerably slower than what it is now (Skibniewski, 2007). The idea behind implementing core banking software solutions was to standardize the business processes across the different branches of a bank. The first version of the core banking software made banking friendlier for the customers by allowing them to access their bank account and performs basic transactions from any bank branch, which had installed the core banking software solutions (Koch, 2002).

With the advancement of technology, core banking has evolved considerably and the modern core banking software solutions come packed with features to assist bankers with banking-related technological requirements. It has also made banking faster and simpler for customers. Modern core banking solutions are designed to; manage customer databases, streamline general ledger and reporting, improve work process flow, perform security audits, automate processes such as telebanking, and support banking analytics including risk analysis, profitability analysis (Nairaland, 2008).

Managing and coordinating a massive system like a bank's core banking software is not an easy task. This is because effective and specific communication is required to lead and guide all project stakeholders (Kerzner, 2017). The cornerstone of a project's success is in leadership. If not entrusted in the right hands, it may lead to a project that falls short of observing the cardinal rule in project management, which requires that quality, timeliness, and budget be observed (Galvin, Gibbs, Sullivan & Williams, 2014).

Many organizations have attempted to roll out systems and have been shocked as more often than not, the costs have grown three-fold, quality remained below par, and the time taken has been unacceptable. These system challenges send shivers in the corporate world whenever they think of rolling out a massive project (Anyanzwa, 2012). The corporate world does not by any chance wish to lose its customer loyalty. However, system changes have destabilized that loyalty that most of these companies have been having for a long time, leading to serious business problems. Traditionally, the banking industry has been faced with keeping projects on schedule, under budget, and completed within the quality specified (Skibniewski, 2007).

The inability to keep the implementation of core banking software projects within the agreed timelines is mainly driven by the lack of an adequate mechanism for managing time. Further, budget issues can be compared to cost overlaps due to the sponsor's inability to quantify the project's required cost. Lastly, poor quality can be related to lack of adequate specifications during inception (Kosura, 2000). Although the banking industry is one of the largest contributors to the economy, it is considered to be one of the most sophisticated when it comes to projects related to its core banking software (Anyanzwa, 2012). The inability to keep the implementation of core banking software projects within the agreed timelines can be aided by BPR, which can improve and develop the activities and operations of implementing core banking software (Bradford, 2014).

In the recent past, Kenya Commercial Bank (KCB), Absa Kenya, NCBA, CFC Stanbic Bank, Family Bank, Equity bank, Central Bank of Kenya (CBK), and Kenya Bankers Association (KBA), just to mention but a few, have changed their core banking software (Mugo, 2018). It is imperative to investigate if BPR can improve and develop activities and operations and keep the implementation of core banking software within the project baselines, that is, time, cost, scope, and quality.

This study focuses on business process re-engineering components that core banking vendors should consider while implementing core-banking systems in Kenyan commercial banks. The study will also seek to establish how business process re-engineering contributes to the successful implementation of core banking software. This study will also focus on the composition of project teams from both the client as well as the vendor. These teams should have subject matter experts who understand the current banking operations and trends in technology.

1.3 Problem Statement

Conceptually, the concept of business re-engineering is considered one of the modern management methods aimed at making radical and integrated changes in organizations' operations and activities across all industries (Novikov, et al 2016). It is noted that many organizations do not realize the importance of applying this concept, despite its role in improving and developing their activities and operations. It has been established that changing banking systems has been a major challenge for banks (Khashman, 2019). Nairaland (2008) demonstrated how Zenith Bank had experienced immense challenges after the bank upgraded its core banking software. In the recent past, Kenya Commercial Bank (KCB), Absa Kenya, NCBA, CFC Stanbic Bank, Family Bank, Equity bank, Central Bank of Kenya (CBK), and Kenya Bankers Association (KBA), just to mention but a few, have changed their core banking software (Mugo, 2018). A Core Banking Software is important for banks and would help improve the efficiency in operations, reduce costs and wastage and hence enhance the productivity of banks. This would, therefore, help banks stay afloat amid the increased dynamics and competition in the banking industry due to advances in technology and avoid being phased out (Chepkorir, 2018). It is imperative to investigate if BPR can improve and develop activities and operations and keep the implementation of core banking software projects within the project baselines, that is, time, cost, scope, and quality.

Many studies have been conducted globally on BPR, though not on the implementation of core banking software. On the global front, Ghafari and Ansari (2018) analysed the key factors affecting the implementation of the core banking software in the Bank of Industry and Mine in Iran. The study established that the main variables influencing the success of core banking software implementation were; senior management support, industry-accepted project management methodologies, BPR, final user training, and vendor support. The study did not delineate the various BPR components and try to ascertain their effect on the implementation

of core banking software thus presenting a conceptual gap. Locally, Murimi (2007) looked into the effects of BPR on service delivery and concluded that BPR has resulted in better service delivery to clients. The local studies reviewed did not analyse the effect of BPR on the implementation of core banking software, thus presenting a conceptual gap. None of the studies delineated the various BPR components and tried to ascertain their effect on the implementation of core banking software.

This is the gap that the current study is intending to fill. Due to this gap, many organizations have not realized the importance of applying the concept of business process re-engineering, despite its role in improving and developing their activities and operations. Therefore, this study aimed to resolve the research question; what are the effects of business process re-engineering on project implementation of core banking software at Kenyan commercial banks?

1.4 Research Objectives

1.4.1 General Objective

The study's main objective was to analyse the effects of business process re-engineering on project implementation of Core Banking Software at commercial banks in Kenya.

1.4.2 Specific Objectives

The specific objectives of the study were;

i. To examine the effects of Information Technology on the implementation of Core Banking Software at the Kenyan commercial banks
ii. To assess the influence of financial resources on the implementation of Core Banking Software at the Kenyan commercial banks
iii. To determine the impact of organizational culture on the implementation of Core Banking Software at the Kenyan commercial banks

1.5 Research Questions

i. What is the influence of Information Technology on the implementation of Core Banking Software at Kenyan commercial banks?
ii. What is the impact of financial resources on the implementation of Core Banking Software at the Kenyan commercial banks?
iii. How does organizational culture affect the implementation of Core Banking Software at the Kenyan commercial banks?

1.6 Significance of the Study

Findings in this research will benefit the academia in improving project management principles inclined to best practices in BPR and providing reliable information that can be used to tutor project managers from both the vendors and commercial banks' end users. The findings will also enrich the project management literature and researchers might find gaps that will require further research on the subject matter.

The banking regulatory institutions will also benefit from this study by imposing strict implementation methodologies for vendors. The study will aim to reduce the implementation failure rate delivering its mandate to protect public funds given financial losses borne by failed core banking software implementations.

Findings in this research will also seek to benefit core banking software vendors. Vendors will be better placed to formulate project management plans and schedules that are feasible considering the project baseline parameters. That is cost, scope, schedule, and quality. Vendors will be better positioned to define risk detectors and possible failure points during the initial planning phase, shedding more light into implementation areas that might demand close supervision and tracking.

On the other hand, financial institutions are not in the business of implementing Core Banking Software and lack internal resources to implement a CBS successfully. This study also sought to lay basic guidelines for banks to define BPR procedures and manage the transition successfully. The majority of banks assume that vendors' Know it all,' but that is never the case since procedures and policy manuals are unique to each financial institution.

1.7 Scope of Study

The study focused on the analysis of the business process re-engineering and implementation at Kenyan commercial banks in Nairobi County. From conceptual scope, BPR's factors applied in the current study were; Information Technology, financial resources, and organizational culture and their effects on the implementation of core banking software. From theoretical scope, the study was anchored on transformational theory of project management andtechnology acceptance theory. Data was acquired from the various employees at a one-time

period. Geographically, this study was examined in Kenyan commercial banks in Nairobi County.

1.8 Limitations of the Study

The data collection process was projected to be tedious and time-consuming. This is because of the administration of the questionnaires and subsequent coding of the data into statistical software for analysis. To address this problem, the researcher will use an online questionnaire and use a research assistant for data analysis via SPSS.

Flaws are present in any research undertaken, and this is not exceptional. The main challenge the study anticipated was the non-response of the questionnaires due to the absence of some respondents from work, especially during the Covid-19 pandemic or non-willingness of the respondents to fill up the questionnaires. Therefore, to mitigate this challenge, the researcher targeted departmental heads since they are better placed to access subject matter experts with relevant information for the study.

In additional, the use of department heads as respondents may have presented about major flaws on the methodological perspectives of the study and aspect of bias. However, this was mitigated by assuring the respondents to honest and truthful in their response as the study was only for purposes of academic research only. The departmental heads from IT, Finance and HR staff was deemed representative of the respective commercial banks. The staff from the above functional departments was chosen because they represent functions and roles in implementing core banking software which is termed as business reengineering process..

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses the relevant literature pertaining implementation of core banking software. It will be structured according to the objectives of the study. It highlights both empirical and theoretical literature. The theoretical foundation analyses the theories which underpin the study and their relevance. Similarly, empirical literature looked into the results of empirical surveys on the impact of various Business Process Re-engineering elements on project implementation. Knowledge gaps emanating from the reviewed studies will be enumerated. A conceptual framework was developed which is a diagrammatical representation of the relationship between the various study variables.

2.2 Theoretical Review of Literature

A theory refers to a blueprint or guide for research that consists of concepts, constructs, theoretical principles, and tenets of a theory (Grant & Onsanloo, 2014). It lays the basis upon which research is conducted and guides the researcher not to digress from the boundaries of established concepts to create his or her concluding educated and educational impact (Adom et al., 2018). Various theories exist to explain the success factors in the implementation of core banking software. For this study, two theories were discussed; the Transformational Theory of Project Management and the Technology Acceptance Theory. The two theories complement each other in that the Transformational Theory of Project Management drives the key business process from input stage to output stage supported by key technological process supported by Technology Acceptance Theory.

2.2.1 Transformational Theory of Project Management

The transformational theory of project management, developed by (Koskela 2000) is provided by the transformation view on operations. In the transformation view, a project is conceptualized as a transformation of inputs to outputs. There are a number of principles by means of which a project is managed (Koskela & Howell, 2002). These principles suggest, for example, decomposing the total transformation hierarchically into smaller transformations, tasks, and minimizing the cost of each task independently. This was developed due to altering contributions into procedures bringing about yields (Drouin, Müller, & Sankaran, 2013). This demands greater intensive labor in administering issues for the achievement of the intended outcome. Theory of projects employs conversion or breakdown of deliverables into segments

that eventually result into a complete whole, appeals for management of tasks independently, and supervision of tasks to ensure development triumph is attained Koskela and Howell (2002).

Project Management has played a prominent part because of the intricacies of worldwide developments pertaining to variations in technology (Tessema, 2010). These have necessitated the importance of single handling systems of intricacies for the achievement of satisfactory outcomes. Lacking hypothetical exhibition of project administration is also observed by Kloppenborg and Opfer (2002) for their work from the year 1960 to 2002. Kari Harkonen (2007), acknowledges the evolution of projects administration is due to the intricacy of emerging roles in firms, which necessitate preparation, synchronization, regulation of complicated and varying needs that present arrangements may not handle. Risks and uncertainties necessitate the need for management and observation of issues that could lead to the successful accomplishment of duties.

Transformational Theory of Project Management drives the aspect of business input to business output an analogy of task or process implementation. The Transformational Theory of Project Management is relevant to this study because the framework relates in terms of short-term planning, execution, and control implementation of core banking software. Implementation of core banking software entails transformational effort that develops better capabilities previously non-existent among end-users with the aim of increasing performance, efficiency, security, and eventually profitability. Implementation of core banking software is usually driven by urgency and has a compelling case for action, in most cases, it is a requirement by the central bank. The implementation requires integrated synchronized administration for the attainment of tactical advantages and typically involves creativity necessitating ranking, sequencing, and synchronization for the achievement of key gains. Many stakeholders are working in the implementation of core banking software from vendors, departmental representatives, regulators, infrastructure vendors, and the customers. Hence the need to have a well-structured and project implementation strategy that promotes transformation.

This theory resonates with this study since the implementation of a core banking system in all tiers results in a wide-scale transformation that affects not only the impending business process but also how the business reacts to competition and customer demands. The key process of BPR including, IT, financial resources and organisational culture have to be driven by well-structured implementation process guideline and thus useful in implementing the core banking

system software right from development, testing, debugging, installation, use acceptance and post implementation review. The theory is also relevant as it also outlines the importance and benefits of efficient and effective project management which is a key ingredient for the successful implementation of core banking software.

2.2.2 Technology Acceptance Theory

The Technology Acceptance Model (TAM) was introduced by Davis (1986). TAM is specifically tailored for modelling users' acceptance of information systems or technologies. The goal of TAM is to explain the general determinants of computer acceptance that lead to explaining users' behaviour across a broad range of end-user computing technologies and user populations (Koufaris, 2002). The basic TAM model included and tested two specific beliefs: Perceived Usefulness (PU) and Perceived Ease of Use (PEU). Perceived Usefulness is defined as the potential user's subjective likelihood that the use of a certain system, for instance, a single platform electronic payment system, will improve his/her action and Perceived Ease of Use refers to the degree to which the potential user expects the target system to be effortless (Davis, 1989).

The final version of the Technology Acceptance Model was formed by Venkatesh and Davis (1996) after the main finding of both perceived usefulness and perceived ease of use were found to directly influence behavior intention, thus eliminating the need for the attitude construct. They theorized that users' mental assessment of the match between important goals at work and the consequences of performing job tasks using the system serves as a basis for forming perceptions regarding the usefulness of the system. Venkatesh and Bala (2008) combined Venkatesh and Davis' (2000) TAM and the model of the determinants of perceived ease of use (Venkatesh, 2000), and developed an integrated model of technology acceptance known as TAM3. The authors developed the TAM3 using the four different types: individual differences, system characteristics, social influence, and facilitating conditions that are determinants of perceived usefulness and perceived ease of use (Surendran, 2012). In the TAM3 research model, the perceived ease of use to perceived usefulness, computer anxiety to perceived ease of use, and perceived ease of use to behavioural intention were moderated by experiences. The TAM3 research model was tested in real-world settings of IT implementations.

This theory is pertinent to this research because the perceived usefulness and simplicity of use of core banking software are key factors in its implementation. The model is applied in real-world settings of IT projects and can therefore be applied in the implementation of core banking software. The benefits to be accrued from the core banking software including enhanced banking processes in terms of efficiency and effectiveness are deemed necessary for growth of the banking industry.

2.3 Empirical Review

This section reviews relevant literature pertaining to the implementation of core banking software. It was structured according to the study's objectives and demonstrated how similar study variables were applied to infer conclusions and recommendations.

2.3.1 Information Technology and implementation of Core Banking Software

The implementation of a core banking software may lead to declined business and organizational profits because of the lack of integrated IT systems (Bradley, 2007). New information technology systems are always susceptible due to the lack of computation of basic tools, requirements, poor user interface, and technology rule (Turban, Rainer & Potter, 2003). Many international vendors are offering up-to-date banking solutions. Banks use two types of policies in order to meet the needs of a bank. One is the provision and development of banking systems from abroad and other supplies locally. Depending on the Banking Development Banking requirements, one or both of these methods or a combination of both are implemented (Beimborn, et al., 2007).

IT in implementation of core banking software involves the development, purchase, or improvement of the current system parameters. All IT products and services should be in line with the bank's strategic plan and in order to facilitate its implementation. It is not acceptable to create services and systems that do not match the bank's strategies. As a result of this alignment, a core banking software developer needs to ensure that the user's needs are clearly understood, fully documented and properly verified (Hailu,& Belachew, 2016). The IT department has the task of maintaining the technical documentation and any development program in this area is to ensure continuity of services and support. Development must comply with technical documentation, be carried out in a highly specialized development environment, and be in full compliance with the bank's standards. End-users often focus on business system capabilities and tend to ignore security, equipment, infrastructure, and compliance with laws

and regulations (Bustamam, Sarion & Shaharudin, 2013). As a result, in any program designed, the security aspect and compliance with the rules and regulations and other standards of the bank, even if the intended purpose is not final, these standards should be observed.

Raulea and Raulea (2014) researched in Romania on the impact of electronic communication technology on cooperation. Other studies on electronic communication technologies in projects were reviewed in this study. Virtual project teams used information and communication technologies to share information, communicate, coordinate, and cooperate with their work. This relates to the effects of Information Technology on the implementation of Core Banking Software at the Kenyan commercial banks. It also relates to the impact of organizational culture on implementing Core Banking Software at the Kenyan commercial banks. The study only analysed the electronic communication aspect of IT, therefore presenting a conceptual gap. The study's dependent variable was teamwork, which is not the current study's focus. Thus, this also presents a conceptual gap. The current study will analyse the effect of information technology with the aspects entailing; the integration of IT in organizational processes, provision of adequate IT tools and equipment, and alignment of ICT strategy to business process re-engineering implementation of core banking software.

Mampe and Kalusopa (2012) carried out a study on records management and project management in the Ministry of Health in Botswana. A case study method was used. The case study approach, as well as qualitative and quantitative data gathering methodologies, was used. Interviews, documentary reviews, questionnaires, and observations were used to gather data. The findings demonstrated that records management practices were not properly established, resulting in service delivery and project performance being harmed. The study only analysed the record management aspect of IT, therefore presenting a conceptual gap. The study's dependent variable was service delivery and project performance, not the current study's focus. Thus, this also presents a conceptual gap. The current study will analyse the effect of information technology with the aspects entailing; the integration of IT in organizational processes, provision of adequate IT tools and equipment, and alignment of ICT strategy to business process re-engineering during core banking implementation software.

Mwangi (2015) conducted a study on the influence of ICT on successful project completion in the Kenyan banking industry, focusing on the five largest banks. The study found that the use

of Project Management Software and Document Management Systems, in project management positively influences successful project completion in the Kenyan banking industry. Ahmad et al. (2007) highlighted that in Singapore businesses reported that the lack of financial and human resources, inadequate IT capabilities, and expertise posed the main problems in carrying out their programs. The study sought to determine the effect of ICT on the implementation of projects in Kenyan commercial banks. The scope was general thus presenting a conceptual gap. The current study will analyse the effect of information technology with the aspects entailing; the integration of IT in organizational processes, provision of adequate IT tools and equipment, and alignment of ICT strategy to business process re-engineering implementation of core banking software.

Dangolani (2011) looked at the impact of information technology on Bank Keshavarzi Iran's banking system. The information is gathered from both customers and staff. The data was then examined using a 5-point Likert scale and an exact percentage to determine the impact of information technology on the banking system's operations. The findings showed that information technology benefits the banking system in three ways: it saves consumers and workers time, reduces expenses, and facilitates networked transactions. However, the study focused at commercial banks in Iran contrasting current study that focuses at banks in Kenya. The level of BPR of the banks between the two banks may differ.

Musau (2015) sought to know what elements influence the effectiveness of a core banking system's implementation. To answer the points presented in the text, the study used a descriptive survey research design approach. The participants in this study were all employees from the bank's departments who were in charge of developing and implementing core banking systems. A total of 45 employees were interviewed for this study. The study relied on primary data. The study discovered that technical specialists' engagement had an impact on the core banking system's successful implementation. However, the study did not indicate the importance of organizational culture in the implementation process of core banking system.

Mwangi (2012) examined the impact of information and communication technology development on Kenyan commercial banks' financial performance. This research entailed acquiring data that described the occurrences, then organizing, tabulating, depicting, and describing the information gathered. Questionnaires were utilized to collect data for the study,

and only primary data was used. Employees of Kenyan commercial banks made up the respondents. The information was gathered from Kenya's 44 commercial banks. According to the findings, investing in ICT systems and infrastructure has been a crucial factor in the banking industry's efficiency and growth because it allows banks to provide a wide range of services to customers.

Opoku, Agbekor, Deku, and Adu (2016) sought to know what factors drive core banking deployments in the financial industry, particularly in developing countries. To assess core banking technology installations in a financial company in Ghana, the study used the Technology Organization Environment (TOE) framework and a qualitative approach. Respondents were interviewed in order to gain a better understanding of mobile banking deployments, and theme analysis was utilized to draw conclusions from the data. The study discovered that elements in the TOE framework, such as a technology's relative advantage and how sophisticated it is, have an impact on core banking deployments.

Noor (2018) investigated the factors affecting strategy implementation among commercial banks in Kenya. The research targeted senior managers in all the 43 commercial banks who were identified using stratified sampling. The research used a survey research design that combined quantitative and qualitative methods. A systematic questionnaire with both open and closed-ended questions was used to collect data. The questionnaire was pilot tested on ten people who shared the same characteristics as the target group. This was important in order to assess the tool's completeness, precision, correctness, and clarity in collecting the data required to answer the study objectives. The information gathered was cleaned, coded, and formatted before being analysed with SPSS to produce descriptive and inferential statistics. Descriptive statistics were in terms of mean, standard deviation, frequency tables, and charts, while inferential statistics included correlation, regression, and ANOVA. The study found that the optimal use of ICT helps an organization to create products and deliver services efficiently and effectively, thereby helping in improving organizational competitiveness, increasing productivity, and enhancing firm performance through the implementation of appropriate strategies aligned to the overall Bank's strategy.

2.3.2 Financial Resources and implementation of Core Banking Software

Banks are subject to ever-higher cost demands characterized by shrinking margins and increasing investment needs. The Core Banking Software system implementation project is like all other huge Information Technology projects, which have been large fund investment,

high costly, time-consuming, and complex projects on the ground level (Adamson, 2003). The implementation of new requirements, especially triggered by regulation and digitalization is driving costs in an increasingly competitive environment. Thus the need to review and optimize the existing IT architecture and depth of value creation is growing steadily. The expansion or adaption of the existing system landscape is usually linked to high IT costs and extensive implementation schedules. On top of that, the end of the life cycle of certain Core Banking Software and components due to technological progress and increasing consolidation of suppliers in the marketplace is in sight (Ochwoto & Ogolla, 2017).

To achieve long-term cost reduction, it is necessary to reduce the complexity of the system landscape, utilize economies of scale and take more account of standards. Therefore, considerations regarding the fundamental renewal of banks' IT landscapes and particularly the modernization of the core banking process are strongly gaining significance at the moment. Usually, this involves changing the core banking solution, possibly adjusting the underlying operating model simultaneously (Chege, 2014).

A World Bank (2013) report indicates that finances and capital resources form the epicenter of success or failure of any project globally; be it infrastructural, educational, and religious, or charity projects. The finances give rise to project quality through accessing qualified personnel, relevant technology, proper materials, and winning community support. Hussin and Omran (2012) investigated the roles of professionals in the Malaysian construction industry. The study established that 70% of the projects abandoned in Malaysian housing construction projects were due to developers' financial problems. Sambasivan and Soon (2007) studied the causes and effects of delays in the Malaysian construction industry. The study concluded that the state that clients' financial position affects project timely completion. The report was done on general projects, this presents a conceptual gap. The current study will analyse the effect of financial resources on the implementation of core banking software.

Onwonga (2015) sought to determine the factors influencing strategy implementation by Giro Commercial Bank Limited and the practices undertaken by the bank to address these factors. To achieve this objective, the study used a case study of Giro commercial bank, and the primary data was collected using an interview guide that sought answers through open-ended questions gathered from the interviewees. Primary data was collected from all three interviewees. The

interviewees were departmental heads of finance, marketing, and operations. Data analysis was done using content analysis. The findings conclude that failure to allocate adequate finances to support strategy implementation influenced strategy implementation by Giro Commercial Bank Limited. However, the study did not indicate the importance of financial resources in the implementation process of core banking system.

Muthiora and Moronge (2018) sought to know how organizational resources influenced strategy implementation in Kenyan state companies. The study was conducted using a descriptive research design. The population of the study was Kenyan state corporations. Kenya had a total of 187 state corporations. The investigation was carried out with the help of the census. A top manager who reports to the state corporation's CEO was the unit of analysis. The investigation of the variable correlations was facilitated by the Multiple Regression model. The existence of a strong positive association between financial resources and plan implementation was noted. There are other elements that influence strategy implementation including IT process and organizational culture that were ignored in this study.

Li et al., (2016) sought to Evaluation and Optimization the Financial Sustainability of Public Rental Housing Projects. This was a case study in Nanjing, China. Limited quantitative studies have been carried out to evaluate the financial sustainability of Public Rental Housing (PRH) projects in China in the private sector. This knowledge gap is bridged through the evaluation of the financial sustainability of hypothetical privately owned PRH projects utilizing data of a state-owned PRH project and the classic discounted cash flow method. The study concluded that show that financially infeasible, although the results from the static profitability evaluation and the debt-repayment ability evaluation seem rather attractive to the private sector. There are other elements that influence strategy implementation including IT process and organizational culture that were ignored in this study.

The implications of resource allocation on strategy implementation at the Kenya police service were studied by Lemarleni, Ochieng, Gakobo, and Mwaura (2017). The study was conducted using a descriptive research design. The study focused on a group of fifty-six police officers with the ranks of OCPDs and OCSs who work in Nairobi County's thirteen police divisions and forty-three police stations. They were chosen because they hold a strategic position at the operational level; they are the key implementers of the service's strategic plan at divisions and

stations, respectively, and are thus best positioned to solve problems. The study employed a stratified sampling technique to choose a sample of 49 police officers in Nairobi with the ranks of OCPDS and OCS. A questionnaire was used to obtain primary data. In this investigation, descriptive statistics were used. Inferential statistics were also utilized to measure the quantitative data in the study. According to the findings, financial resources and project implementation had both positive and substantial relationships.

2.3.3 Organizational Culture and implementation of Core Banking Software

According to Todd (2005), organizational culture is a set of norms, beliefs, symbols, and traditions that can be used to describe the affinity of respective members of any organization. Organizational culture plays a key role in system implementation. A supportive culture calls for staff to easily embrace change, take calculated risks, and hence make new changes easy to incorporate within the organization. Here is a need to take care of shared values while developing a strategy or a group of strategies to achieve business goals. It is also known as an organizational culture where all share some values. These values are intangible assets of an organization and they play a vital role in the overall success of the business. Banks have a unique culture and ways of doing things. Its values include best customer service, integrity, commitment, and hard work.

According to Shein (1990), organizational culture is the basic beliefs and assumptions shared by members of the organization that are operated unconsciously and portrays an organization`s view of itself and its environment. Organizational culture manifests itself in three different ways, that is, observable facts, values, and basic underlying assumptions. Schwartz and Davis (1981) throw light on the importance of culture in the prosperity of the organization. They believe that organizational culture can alter the intended impact of well-thought changes in an organization to a greater extent. In different situations, organizational culture can be supportive of or against organizational change.

The role and influence of organizational culture in change management are of vital importance. The assessment and understanding of organizational culture assist in pinpointing the likely resistance to change because of incompatibility between organizational culture and change management strategies. It also helps choose whether to ignore the culture, manage around the culture, try to change the culture to fit the strategy, or change the strategy to fit the culture (Song, 2009).

An evaluation of critical success factors in oil and gas exploration portfolio projects in Nigeria by Damiebi and Nazatul in (2010) concluded that communication, good project implementation, realistic project duration, and innovative technology were among the key ingredients for successful projects. In addition, a research paper by Jumba (2013) focused on critical factors affecting project success amongst manufacturing companies in Malaysia. The research concluded that top management support, clear project objectives, and the project team's competency played a significant role in ensuring project success in the manufacturing sector.

Xaba (2011) investigated the possible cause of school governance challenges in South Africa. The study concluded that project managers must design and facilitate a culture that brings out the best in stakeholders to benefit the project. He emphasizes that project managers must create a learning culture, encourage open communication, acknowledge, reward, and give members attention while focusing on project success. Hammer and Champy (1993) highlighted some failure factors like a failure that involves employees from the bottom-up in decision making, roles to those who do not understand BPR technology limitations. The study examined projects which were designed with a focus on cost reduction introducing led to a weak team and problems in communication. The study was conducted in the education sector context, thus presenting a contextual gap. The current study will analyse the effect of organizational culture on the implementation of core banking software.

Odero and Mutua (2016) looked at the impact of organizational culture on the implementation of strategic plans in Kenyan commercial banks, using the Cooperative Bank of Kenya as a case study. The study used a descriptive research approach with a sample of 252 respondents chosen from 715 Cooperative Bank workers across Nairobi County. We used stratified and simple random approaches. Questionnaires were used to collect data, which was then analysed using descriptive and inferential statistical analysis techniques. According to the findings of the study, organizational culture was shown to be substantially connected with the strategic plan implementation and to be significant. There are other elements that influence strategy implementation including IT process and financial resouces that were ignored in this study.

Ndung'u (2018) investigated the impact of organizational culture on the implementation of a quality management system in Nairobi's Small and Medium Cloud Companies. To evaluate the

impact of organizational culture, the researchers employed a mixed research design including explanatory and descriptive approaches. The study looked at four technology companies in Nairobi County that provide cloud-based solution services, with a total population of four companies and a sample size of 73 respondents. The questions were in the form of a Likert Scale and were used to collect data from the general staff using semi-structured questionnaires. The association between the independent variables (leadership, employee management, organizational glue, strategic emphases) and the dependent variables was determined using Spearman's correlation (motivation for certification, quality awareness, and costs). The study discovered that the aspects of organizational culture and the process of implementing quality management systems had a moderately good association.

Wambura and Muchemi (2018) investigated the impact of organizational culture on commercial bank strategy implementation in Nyeri County, Kenya. The study looked at four different types of organizational cultures: task culture, role culture, person culture, and power culture, and looked at how each one affected strategy execution. The study was conducted using a descriptive survey research approach. A target audience of 84 respondents was selected from all of Nyeri County's 12 commercial banks. The census study method included examining all 12 commercial banks functioning in the county. Purposive sampling was also used to choose the bank's top management staff as choice responses. Branch Managers, Operations Managers, Accountants, Credit Managers, Marketing Managers, Customer Relations Managers, and ICT Managers from all Commercial Banks were among the responders. A questionnaire was utilized to collect data for the study. Both descriptive and inferential statistics were used to analyse the data. For qualitative data, content analysis was performed. Organizational culture was a statistically significant predictor of strategy adoption, according to the results of the one-way analysis of variance (ANOVA) and multiple regression analysis. The effects of person and task cultures on strategy implementation were positive, while the effects of role and support cultures were negative.

Akuei, Katuse, and Njenga (2016) investigated the impact of various dimensions of organizational culture on effective strategy implementation in South Sudan commercial banks, including dominant characteristics, organizational leaders, employee management, organizational glue, strategic emphases, and success criteria. The study used both descriptive and explanatory research designs to attain these goals. The study focused on the top and middle managers of South Sudan's 29 commercial banks.

Yamane (2001) was utilized to create a sample of 168 top and intermediate managers from commercial banks for the study. Furthermore, the managers who were included in the sample were chosen using a purposive sampling technique. Questionnaires were used to collect primary data, which was then analysed using factor analysis and a multiple linear regression model in statistical software for social scientists (SPSS). The study discovered that dominant traits have little bearing on how well a plan is implemented. Organizational leadership has been demonstrated to have a favourable impact on plan implementation. Employee management and organizational glue had no bearing on the success of strategy implementation. Furthermore, there was no link between strategic emphases and good plan implementation.

Muthoni (2012) investigated the cultural manifestations in Kenyan commercial banks and their effects on strategy implementation to close this gap. The study used a census survey design to collect data from all licensed commercial banks in Kenya. The study's target population was 43 representatives from all 43 licensed commercial banks, with Nairobi serving as the study's focal point and commercial centre. A questionnaire was employed to obtain primary data for the study. Statistical Package for Social Sciences was used to examine the data, which included both qualitative and quantitative methodologies. The study discovered that for Kenyan banks to obtain a competitive edge, strategy implementation must be matched with a strong organizational culture.

2.4 Research Gap

Table 2.1 gives a summary of preceding research whose variables are related to those under the current study. An insight into the methodologies adopted and findings allows the researcher to generate the knowledge gaps. The studies reviewed that related the various BPR elements to project implementation was not done in the implementation of core banking software thus presenting a contextual gap. The studies did not also use the various attributes denoting the variables which are going to be utilized in the current study, this presents a contextual gap.

Table 2.1: Summary of Knowledge Gaps

Objective	Author	Variables	Findings and Conclusions	Gaps	How current study will address the gaps
To examine the impact of electronic communication technology on teamwork	Raulea and Raulea (2014)	• Electronic communication technology • Teamwork	Virtual teams in projects used information and communication technology to share information, communicate, coordinate and collaborate their efforts.	The study only analysed the electronic communication aspect of IT, therefore presenting a conceptual gap. The study's dependent variable was teamwork, which is not the current study's focus. Thus, this also presents a conceptual gap.	The current study will analyse the effect of information technology with the aspects entailing; the integration of IT in organizational processes, provision of adequate IT tools and equipment, and alignment of ICT strategy to business process re-engineering implementation of core banking software.
To examine the effects of Records management and service delivery: the case of the Department of Corporate Services in the Ministry of Health in Botswana	Mampe and Kalusopa (2012)	• Records management • Project management	Practices applied to the management of records were not well entrenched, leading to undermining service delivery and project performance.	The study only analysed the record management aspect of IT, therefore presenting a conceptual gap. The study's dependent variable was service delivery and project performance, not the	The current study will analyse the effect of information technology with the aspects entailing; the integration of IT in organizational processes, provision of adequate IT tools and equipment, and

				current study's focus. Thus, this also presents a conceptual gap.	alignment of ICT strategy to business process re-engineering during core banking implementation software.
Influence of ICT on Successful Project Completion in The Kenyan Banking Industry: Case of Five Largest Banks	Mwangi (2015)	• ICT • Successful project completion	The study found that the use of Project Management Software and Document Management Systems, in project management positively influences successful project completion in the Kenyan banking industry.	The study sought to determine the effect of ICT on the implementation of projects in Kenyan commercial banks. The scope was general thus presenting a conceptual gap.	The current study will analyse the effect of information technology with the aspects entailing; the integration of IT in organizational processes, provision of adequate IT tools and equipment, and alignment of ICT strategy to business process re-engineering implementation of core banking software.
To assess the influence of financial resources on the implementation of Core Banking Software at the Kenyan commercial banks	World Bank (2013)	• Financing • Successful project completion	The report concluded that finances and capital resources form the epicenter of any project's success or failure globally, be it infrastructural, educational, and	The report was done on general projects, this presents a conceptual gap.	The current study will analyse the effect of financial resources on the implementation of core banking software.

			religious, or charity projects. The finances give rise to projects quality through accessing qualified personnel, relevant technology, proper materials, and winning the community support.		
To assess Variations in Government Contract in Malaysia	Hussin and Omran (2012)	• Financing • Project Implementation	The study established that 70% of the projects abandoned in Malaysian housing construction projects were due to developers' financial problems.	The study was conducted in the construction industry context, thus presenting a contextual gap.	The current study will analyse the effect of financial resources on the implementation of core banking software.
To assess the causes and effects of delays in the Malaysian construction industry	Sambasivan and Soon (2007)	• Financing • Project Implementation	The study concluded that the state that clients' financial position affects project timely completion.	The study was conducted in the construction industry context, thus presenting a contextual gap.	The current study will analyse the effect of financial resources on the implementation of core banking software.
An evaluation of critical success factors in oil and gas project portfolio in Nigeria	Damiebi and Nazatul (2010)	• Communication • Project duration • Innovative technology • Project implementation	The study concluded that communication, good project implementation, realistic project duration, and innovative technology	The study was conducted in the oil and gas industry context, thus presenting a contextual gap.	The current study will analyse the effect of organizational culture on the implementation of

			were among the key ingredients for successful projects		core banking software.
To determine the effect of corporate culture on project performance at a nation media group	Jumba and Charles (2013)	• Top management support • Clear project mission Project team's competency • Project implementation	The research concluded that top management support, a clear project mission, and the project team's competency played a significant role in ensuring project success in the manufacturing sector.	The study was conducted in the manufacturing industry context, thus presenting a contextual gap.	The current study will analyse the effect of organizational culture on the implementation of core banking software.
To determine the possible cause of school governance challenges in South Africa	Xaba (2011)	• School leadership. • School governance • Organizational development.	The study concluded that project managers must design and facilitate a culture that brings out the best in project stakeholders to the project's benefit. The study further emphasized that project managers must create a learning culture, encourage open communication, acknowledge, reward, and give members attention while focusing on project success.	The study was conducted in the education sector context, thus presenting a contextual gap.	The current study will analyse the effect of organizational culture on the implementation of core banking software.

2.5 Conceptual Framework

Rocco and Plakhotnik (2009), stipulate that a conceptual framework lays the foundation for research objectives and questions by grounding a study in the right knowledge constructs. The independent variables in this study are the enablers of business process re-engineering that constitute; information technology, financial resources, and organizational culture, whereas the dependent variable is the implementation of core banking software.

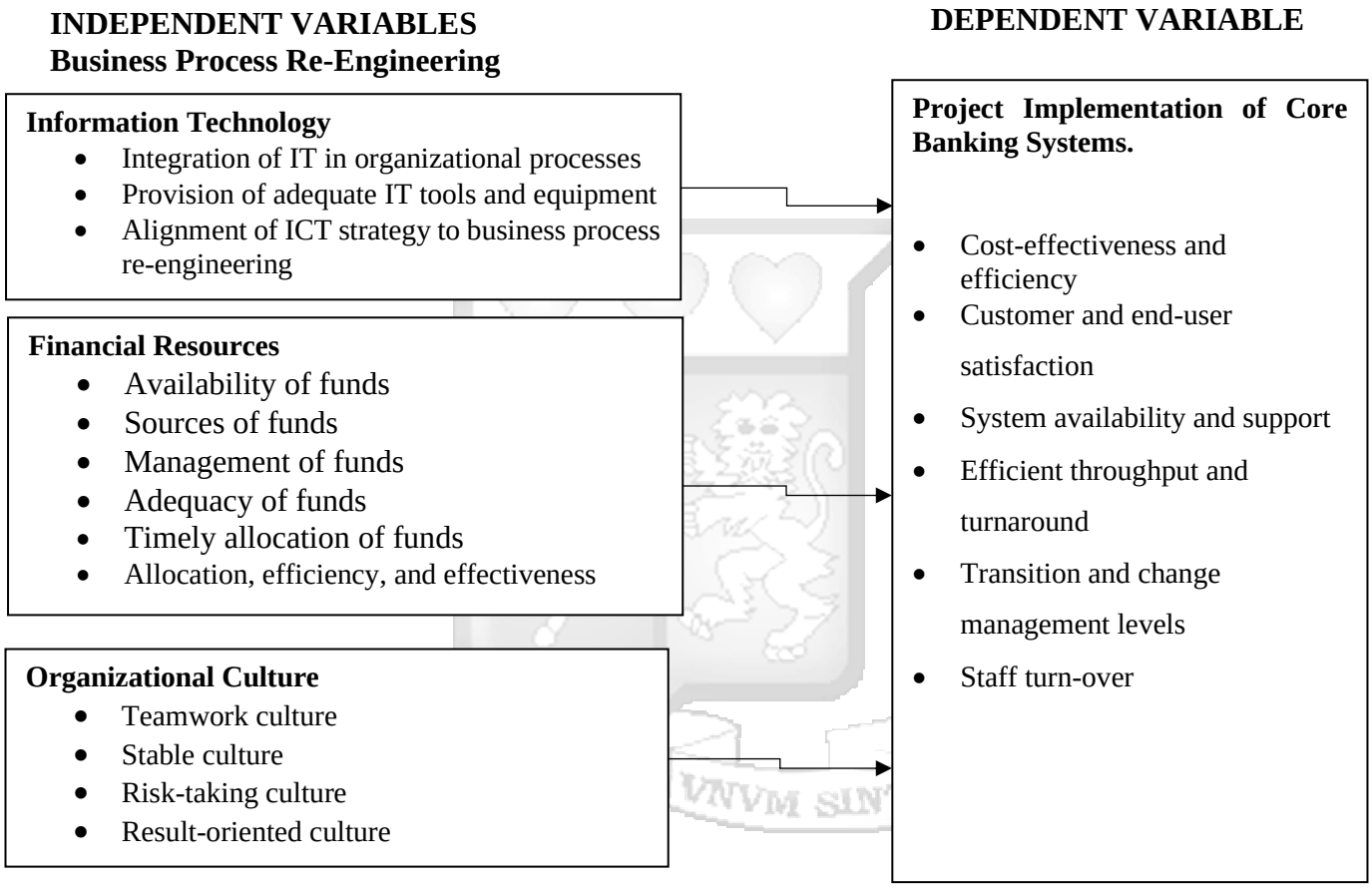


Figure 2.1: Conceptual Framework

2.5.1 Information Technology and Project Implementation of Core Banking Systems

Banks use four types of IT procurements strategies in order to meet their ICT needs. The first is building their systems internally, the second would be to procure from local suppliers, and thirdly procure from international suppliers, and finally, a combination of the four. Depending on the Banking Development Banking requirements, these methods or a combination of all are implemented (Sad, 2011). The Transformational Theory of Project Management is relevant to this objective because the implementation of core banking software entails a transformational effort that entails IT infrastructure that develops better capabilities previously non-existent

among end-users to increase performance, efficiency, security, and eventually profitability. The Technology Acceptance Model is applied in real-world settings of IT projects and can therefore be applied in the implementation of core banking software.

2.5.2 Financial Resources and Project Implementation of Core Banking Systems

The expansion or adaption of the existing system landscape is usually linked to high IT costs and extensive implementation schedules. On top of that, the end of the life cycle of certain core banking systems and components due to technological advancement and increasing consolidation of suppliers in the marketplace is in sight (Ochwoto & Ogolla, 2017). The Transformational Theory of Project Management is relevant to this objective because the implementation of core banking software entails transformational effort that requires financial resources to develop better capabilities previously non-existent among end-users to increase performance, efficiency, security, and eventually profitability. The Technology Acceptance Model is relevant to this study because the implementation of core banking software will mainly hinge on perceived usefulness and ease of use to allocate financial resources.

2.5.3 Organizational Culture and Project Implementation of Core Banking Systems

Organizational culture can alter the intended impact of well-thought changes in an organization to a greater extent. In different situations, organizational culture can be supportive of or against organizational change. The Transformational Theory of Project Management is relevant to this objective because there are many stakeholders working in the implementation of core banking software from vendors, departmental representatives, regulators, infrastructure vendors, and the customers. The Technology Acceptance Model is relevant to this study because the implementation of core banking software will mainly hinge on perceived usefulness and ease of use, which will encourage commercial banks' organizational culture to embrace core banking software implementation.

2.6 Operationalization of Study Variables

This section discussed how the research variables were operationalized. The dependent variable will be the project implementation of core banking software. The independent variables are the enablers of business process re-engineering: information technology, financial resources, and organizational culture. The study assessed how the enablers of business process re-engineering impact on project implementation of core banking software. This is displayed in Table 2.2.

Table 2.2: Operationalization of Study Variables

Variable	Nature of Variable	Operational indicators	Measurement scale	Measurement and analysis
Project Implementation of core banking software	Dependent Variable	• Cost-effectiveness and efficiency Customer and end-user satisfaction • System availability and support • Efficient throughput and turnaround • Transition and change management levels • Staff turn-over	Likert-type scale (Ordinal Scale)	Descriptive, inferential analysis
Information Technology (IT)	Independent Variable	• Integration of IT in organizational processes • Provision of adequate IT tools and equipment • Alignment of ICT strategy to business process re-engineering	Likert-type scale (Ordinal Scale)	Descriptive, Inferential analysis
Financial Resources	Independent Variable	• Availability of funds • Management of funds • Adequacy of funds • Timely allocation of funds • Financial Sustainability • Allocation, Efficiency, and Effectiveness	Likert-type scale (Ordinal Scale)	Descriptive, Inferential analysis
Organizational Culture	Independent Variable	• Teamwork culture • Stability Culture • Risk-taking culture • Result-oriented culture	Likert-type scale (Ordinal Scale)	Descriptive, inferential analysis

2.7 Chapter Summary

The Transformational Theory of Project Management guides projects implementation of core banking software entailing transformational effort that requires financial resources to develop better capabilities previously non-existent among end-users to increase performance, efficiency, security, and eventually profitability. Furthermore, the expansion or adaption of the existing system landscape is usually linked to high IT costs and extensive implementation schedules. Therefore, financial resources are critical in the project implementation of core banking software. The Technology Acceptance Model guides that core banking software project implementation will mainly hinge on perceived usefulness and ease of use to allocate financial resources.

Finally, organizational culture can alter the intended impact of well-thought changes in an organization to a greater extent. In different situations, organizational culture can be supportive of or against organizational change. The Transformational Theory of Project Management guides that there are many stakeholders working in the implementation of core banking software from vendors, departmental representatives, regulators, infrastructure vendors, and customers. The Technology Acceptance Model guides that core banking software implementation will mainly hinge on perceived usefulness and ease of use, which will encourage commercial banks' organizational culture to embrace core banking software implementation.

CHAPTER THREE: RSEARCHDESIGN AND METHODOLOGY

3.1 Introduction

This chapter presents the research methodology adopted in this study. It details the procedures that were followed when carrying out the study. The chapter discusses the research philosophy, research design, study population, sampling design, data, tests of reliability and validity, operationalization of key variables of the study, and data analysis process that aligns to the study needs.

3.2 Research Philosophy

This study employed a positivist paradigm. Positivism provides a theoretical description and provides valid fact data that is scientific. Theories provide a framework established on descriptions and justifications. Levin (1988) notes that positivists have faith, in reality, being steady and defined from a perspective without meddling studied phenomena. Besides, the phenomena studied should be isolated and observations made credibly. Often it entails alteration of actuality with variants in independent adjustable to recognize uniformities form associations amongst essential factors of the social biosphere. Forecasts are made based on formerly described realities and their inter-relationships. The current research established a systematic method identifying correction between the study variables. It analysed success factors of Business Process Re-engineering and their effects on project implementation of Core Banking Software. The study applied positivist research philosophy because relevant theories and empirical literature guided it.

3.3 Research Design

Creswell (2015), a research design means a description of how one is planning to conduct the study. The study subjects and the site of study are selected through the basis. It is a systematic plan to study a problem and it involves the actual execution and implementation of the research plans. The study used the descriptive research design in a bid to measure the data trends that exist in reference to the effects of business process re-engineering on project implementation of Core Banking Software at commercial banks in Kenya. According to Nassaji (2015), the descriptive method gives the researcher a way to compare and contrast the different types of data in order to ascertain the trends that exist therein. The study chose the descriptive research design since it could be used to describe the different phenomenon and their characteristics.

In addition, the data sets produced through the descriptive method help to summarize and support the assertion of facts. The research design was preferred because it allows describing

the population through uniform information from a sizeable populace at a point in time. The method was used because it addresses the aim of the research is to examine the association amongst variables of the research. Thus, the design was useful in determining the effect of Information Technology, financial resources and organizational culture on the implementation of Core Banking Software at the Kenyan commercial banks.

3.4 Target Population

A population is a set of things or entities with shared observable characteristics on whom the research was based and inferences made from an analysis of their response (Mugenda & Mugenda, 2013). All the 42 licensed Kenyan commercial banks, whose list was provided in Appendix II, formed this study population (unit of analysis). Key unit of observation included at least three staff members targeting an IT, Finance and HR staff representatives of the respective commercial banks. The staff from the above functional departments was chosen because they represent functions and roles in implementing core banking software relevant to the study variables being analysed. Thus, the study target population was 126 respondents. Table 3.1 shows the target population of the study.

Table 3.1: Target population

Department	Target population
IT department	42
Finance department	42
HR department	42
Total	126

3.5 Sampling

A sample is a unique subset of a statistical population whose attributes are investigated in order to learn more about the entire population (Ordho & Kombo, 2002). Desu (2012) defines sample as a subgroup of the entire population. This study considered simple random sampling which is a probability sampling technique as all the bank employees in their various functions have an equal chance of being in the sample using random selection. Simple random sampling ensures greater statistical efficiency and reduces any sampling error that might occur. To calculate the sample size of this study Yamane (1967) formula was used to identify the number

of responses needed. The equation is as below.

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = sample size

N = population size

e = the level of precision

1 = Constant

The assumption of this formula was a precision level of 5% and a 95% confidence level. The study sample was highlighted below.

$n = 126/ 1+ 126(0.05)^2$

n = 96 employees

The resultant sample size was 96 bank employees operating in different functions.

3.6 Data Collection

Essential information was utilized in the current investigation. Essential information alludes to the unique and not yet distributed information that is continuously considered new information that one gathers from the field. Essential information was gathered utilizing questionnaires. The questionnaire was self-administered and data was collected using Google forms. According to Kothari (2004), a self-administered questionnaire is a systematic approach to eliciting values, beliefs, attitudes, and opinions. The researcher formulated an online questionnaire utilizing the Likert scale as shown in Appendix II. Any none responses from the online questionnaires was followed up by physical visits to administer the questionnaire. The researcher endeavoured to use physical questionnaires and conduct face-to-face interviews to collect data where online respondents fail to respond within two weeks. The type of data collected was primary quantitative data.

A survey is a review or rather an investigative instrument containing a movement of requests and various prompts to aggregate information from respondents (Foddy, 1994). Surveys are utilized because it figures out how to gather data from a massive number of people in a short

period and in a consistent manner. This instrument gives room and opportunity to articulate to the respondents that they hope to get more data to catch significant subjects of the investigation on the effect of Business Process Re-engineering on project implementation of Core Banking Software. The questionnaire was developed based on the research objectives.

Close-ended questions gather structured replies to permit for more concrete recommendations. Close-ended questions were utilized in the questionnaire utilized in the study. These questions helped lessen similar answers consequently resulting in diverse replies that were acquired. The researcher utilized electronic data collection platforms like google forms. Furthermore, the respondents were issued an introductory letter from the university to assure that the study is not meant to bring any malice or disclose company secrets.

3.7 Data Analysis

The information gathered from the field was prepared physically and the handling stage included altering, arrangement, coding, record, and organization. Descriptive investigation of data that apply measures of central tendencies and standard deviations. Further, the associations between the study variables and testing of the hypothesis was executed using inferential statistics, which incorporated correlation and multiple linear regression analysis. Correlation analysis was first to be conducted to assess the strength of the relationship between the study variables, then regression analysis was conducted to assess the relationship between the independent variables and the dependent variable. The statistical software, Statistical Package for Social Sciences (SPSS) version 25, was utilized for this study's analysis. The model adopted for this study is illustrated below.

$$\mathbf{Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon}$$

Where;

Y = Project Implementation of core banking software,

α - Is the regression constant or intercept?

β_1, β_2, and β_3– Are regression coefficients or change induced in Y by each X_1, X_2, and X_3 that are predictor variables,

X_1 – Information Technology (IT),

X_2 – Financial Resources,

X_3 – Organizational Culture,

Ɛ (Extraneous) - Error term represents the changeability in Y that cannot be clarified by the straight impact of the indicator factors.

Diagnostic tests were carried out as a precursor to conducting regression to ensure that Best Linear Unbiased Prediction (BLUP) is obtained. Diagnostic examinations on normality, linearity, multicollinearity, and autocorrelation were done on the collected data to establish its suitability in the formulation of a linear regression model. The kurtosis and skewness tested normality. Linearity indicates a direct proportionate association amongst dependent and independent variables such that variation in the independent variable is followed by a correspondent variation in the dependent variable (Gall et al. 2006). Linearity was tested by determining homoscedasticity which was determined by the Breuch-Pagan test.

Tests for multicollinearity of data were carried out using Variance Inflation Factors (VIF) and Tolerance statistics to determine whether the predictor variables considered in the research are significantly correlated with each other. According to Grewal et al., (2004), the main sources of multicollinearity are small sample sizes, low explained variables, and low measure of reliability in the independent variables. The auto-correlation test was carried out through the Durbin-Watson Statistic.

3.8 Data Quality Control

Reliability and validity are the two most significant quality control objects in any study. Enumerated below are explanations on the validity and reliability measures of the study.

3.8.1 Reliability

Reliability is an unflinching quality and goes about as an instrument that is utilized to depict the general consistency of a measure. A measure is said to have an unwaveringly high quality on the unlikely chance of producing comparable outcomes under obvious conditions (Roberts, & Priest, 2006). The unwavering quality guaranteed through the proper arbitrary testing and a purposive inspecting method is another sign of dependability in this investigation. The questionnaire shall be subjected to a trial run to ensure the variables are well understood to the respondent to improve the final questionnaire before actual data collection. The Cronbach alpha analysis also helped ascertain the research instruments' dependability by demonstrating an assortment instrument inside consistency. The Cronbach's Alpha portrays dependability by demonstrating a genuine 'base' score. Cronbach's Alpha is essential to a researcher in

guaranteeing consistency and dependability of the poll regardless of whether the inquiries are traded with related ones (Thanasegaran, 2009). Cronbach's Alpha is based on the formula indicated below.

$\alpha = rk / (I + (K-I)\, r)$

Where;

k is the number of variables in the analysis

r is the mean of the inter-item correlation.

A rule of thumb that applies to most situations is given in Table 3.2. Normally, reliabilities of 0.7 range is considered acceptable and over 0.8 is good.

Table 3.2: Chronbach's Rule on Internal Consistency

Chronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Source: (Sekaran, 2003)

The questionnaire pilot tested using thirteen respondents with similar characteristics as the target population. The pilot test indicated there were some statements whose deletion would increase the Cronbach's Alpha. Those statements whose deletion would lead to a significant change in Cronbach's Alpha were deleted in the final questionnaire.

3.8.2 Validity

Instrument validity is the capacity that an instrument has to measure the constructs as purported. In this study, questionnaires were outlined borrowing from related prior studies with changes geared towards addressing study objectives. The research supervisor double-checked the document to ensure that the theoretical aspects were arrived at as intended. The researcher incorporated recommendations and corrections from the supervisor, academic staff, and the

respondents who participated in the pilot test to ensure the validity of the research instrument. The researcher also performed the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests of the variables from the pilot test participants' responses to ensure criterion validity.

To avoid bias, respondents did not indicate their names in the questionnaire. The researcher personally administered the online questionnaire and did not engage data collection assistants who might introduce bias through either communication to respondents. Additionally, the wordings of the questionnaire were selected appropriately. The questionnaire questions did not steer particular responses or make the respondents understand the situation in a certain way.

3.9 Ethical Issues in Research

Confidentiality and privacy were observed by keeping all the information gathered confidential and strictly using it for research. The participants were informed that the information is for academic research findings and no undesirable person is to access the questionnaire. The researcher abstained from inquiring about humiliating questions or conveying disgust or shock, not using threatening or persuasive statements in certain lines, and not causing fear or anxiety during data collection.

The reason for undertaking the research was unveiled on factual truths. Respondents' requests for anonymity were adhered to. The respondents' identity was concealed and kept confidential as their names will not be indicated in the questionnaires. The subjects were requested to participate in the research voluntarily through a research introduction letter and informed consent sought by filling the informed consent form. The findings were disseminated based on factual findings, free of any bias. Ethical clearance was obtained from the Strathmore University Ethical Review Committee and a research permit acquired from the National Commission for Science, Technology, and Innovations (NACOSTI). The researcher also adhered to the Data Protection Act law enacted on 11th November 2019.

CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS

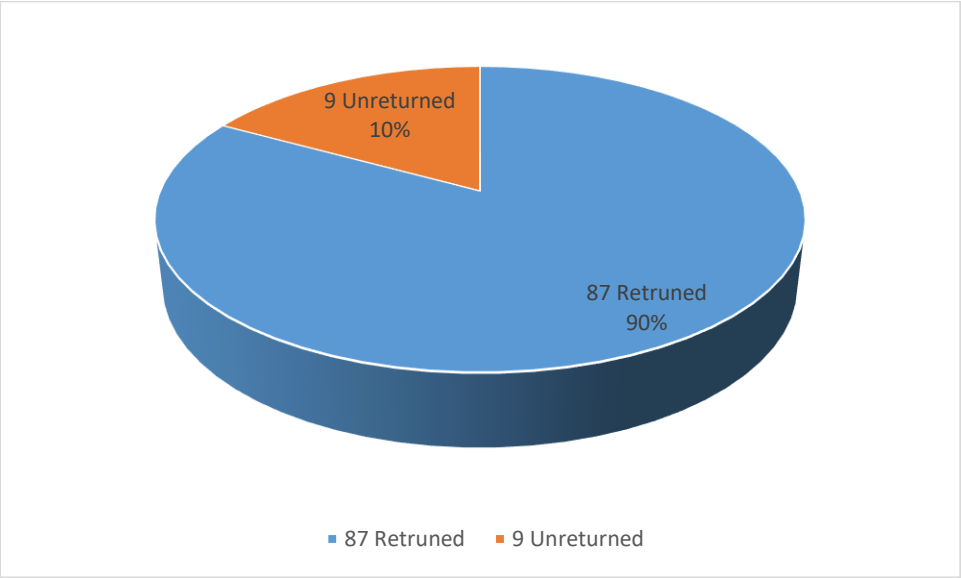
4.1 Introduction

This chapter entails data analysis, findings, and interpretation. The target population was representative of the respective Kenyan commercial banks in Nairobi County from a population of 42 regulated banks. The study employed primary data, which was collected by the use of a close-ended online questionnaire. It was a cross-sectional study since data was collected across several units in a uniform time frame. Data was analysed through SPSS and interpreted through quantitative methods as per the research's objectives and questions. The study utilized descriptive statistics to gauge the existence of business process re-engineering key factors and implementation of core banking software. The researcher employed inferential statistics, including correlation analysis and multiple linear regression to analyse data collected during the study.

4.2 Response Rate

The researcher administered 96 questionnaires to the IT, Finance and HR staff representatives from the Kenyan commercial banks. Out of these the ones that were fled and returned were 87 whereas 9 were not returned. Three sets of questionnaires were distributed to each bank one IT, Finance and HR staff representative for each of the banks. Therefore, this represented a response rate of 90%. According to Mugenda and Mugenda (2010) who pointed out a response rate of 70% and above is sufficient for analysis and drawing conclusions. The rest of the questionnaires that were not returned could be because they were too busy to respond to the questionnaires. The response rate is represented in Figure 4.1.

Figure 4.1: Response Rate



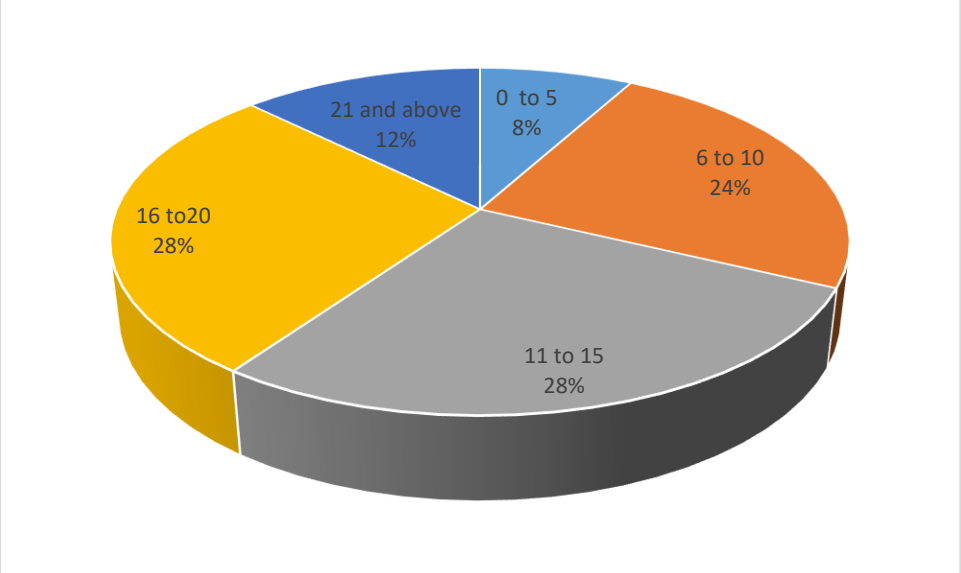
4.3 Demographic Characteristics of the Respondents

The researcher inquired about some demographic characteristics of the respondents and the banks. They included the number of branches, number of employees, number of concurrent system users, estimated number of active customers, the departments represented years of experience whether they were involved in decision making regarding software implementation and if they were involved in decision making.

4.3.1 Number of Branches

The results showed that the banks that had 11 to 15 branches and 16 to 20 branches represented 28% each those with 6 to 10 branches represented 24% those with 21 and above were 12% while those with 0 to 5 branches were the least at 8%. This implied that most of the banks have branches spread across the country. The number of branches may define the capability of the bank in terms of IT resources and financial resources to undertake the BRP.

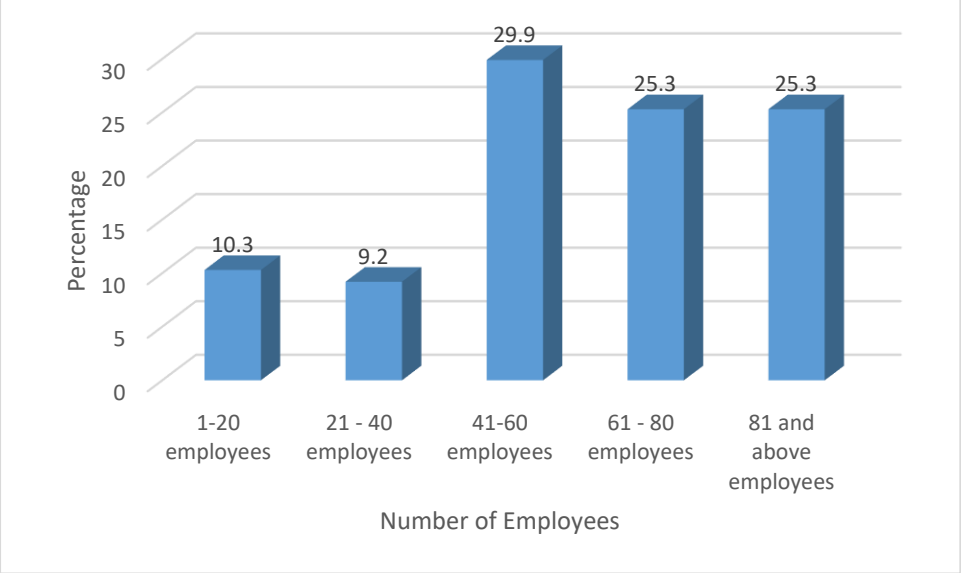
Figure 4.2: Number of Branches



4.3.2 Number of Employees

According to the results in Figure 4.3 banks with 41 to 60 employees represented 29.9% those with 61 to 80 and 81 and above employees represented 25.3% each while those with 1 to 20 employees and 21 to 40 employees represented 10.3% and 9.2% respectively.

Figure 4.3: Number of Employees

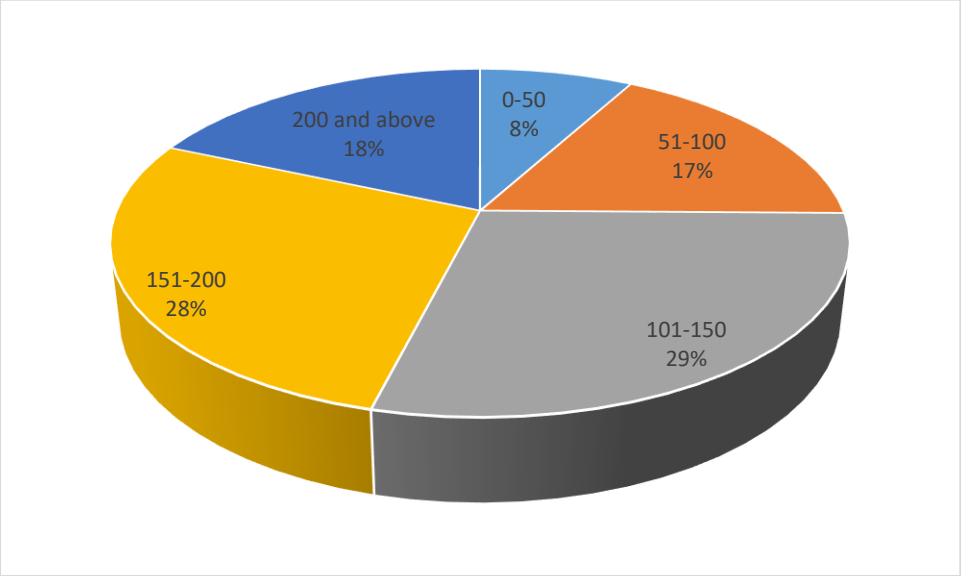


4.3.3 Number of Concurrent System Users

The respondents were asked to indicate the number of customers who are not only account holders but also system users. Banks with 101 to 150 concurrent system users represented 29% followed by those with 151 to 200 users at 28% while those with 200 and above users

represented 18% and 17% for 51 to 100 users while only 8% had 0 to 50 users. The results are shown in Figure 4.4.

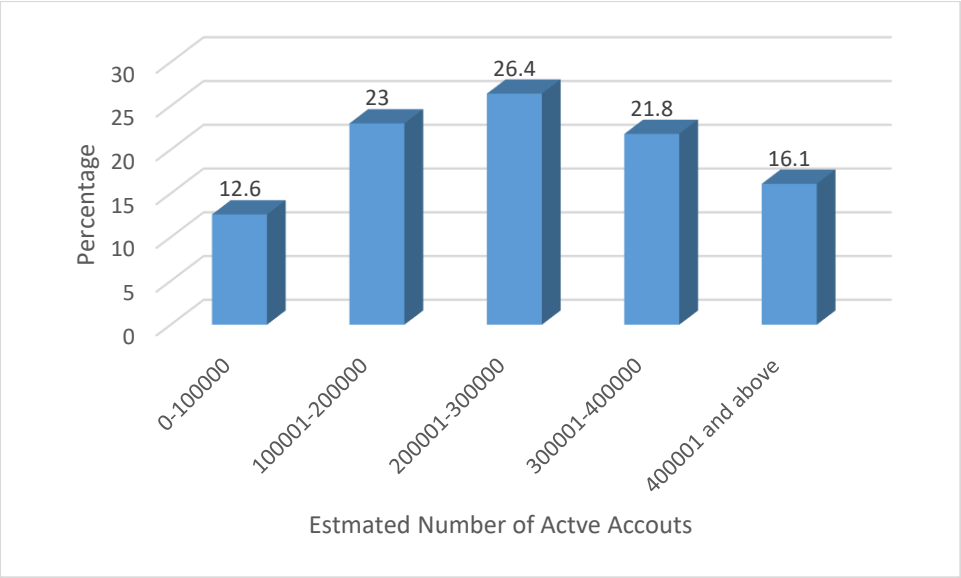
Figure 4.4: Number of Concurrent System Users



4.3.4 Estimated Number of Active Accounts

The estimated number of active member's results showed that banks with 200001 to 300000 members represented 26.4% followed by those with 100001 to 200000 at 23%, then those with 300001 to 400000 at 21. 8%. Those with 400001 and above members and 0 to 100000 members represented 16.0% and 12.6% respectively. The results are shown in Figure 4.5.

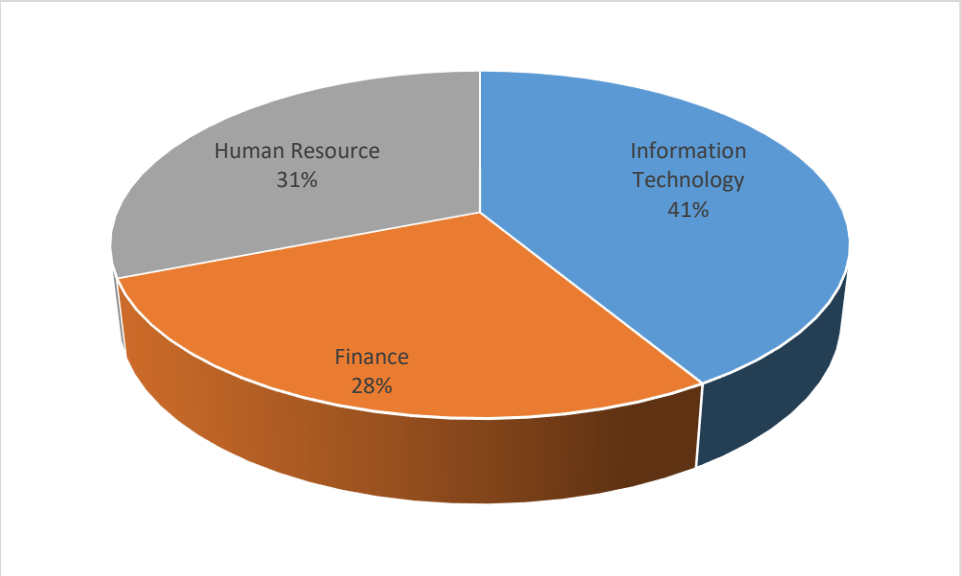
Figure 4.5: Estimated Number of Active Accounts



4.3.5 Department

The results in Figure 4.6 showed that 41% of the respondents formed the information technology department 31% from human resource and 28% from the finance department.

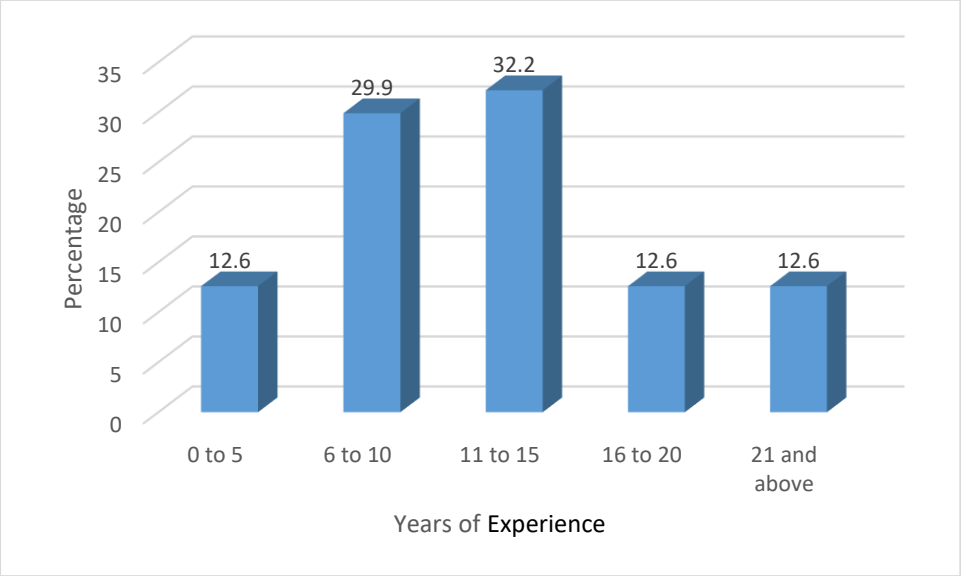
Figure 4.6: Department



4.3.6 Years of Experience

Results under Figure 4.7 indicated that 32.2% of the respondents had 11 to 15 years of experience 29.9% had 6 to 10 years of experience while those with 0 to 5 years 16 to 20 years and 21 and above years represented 12.6% each.

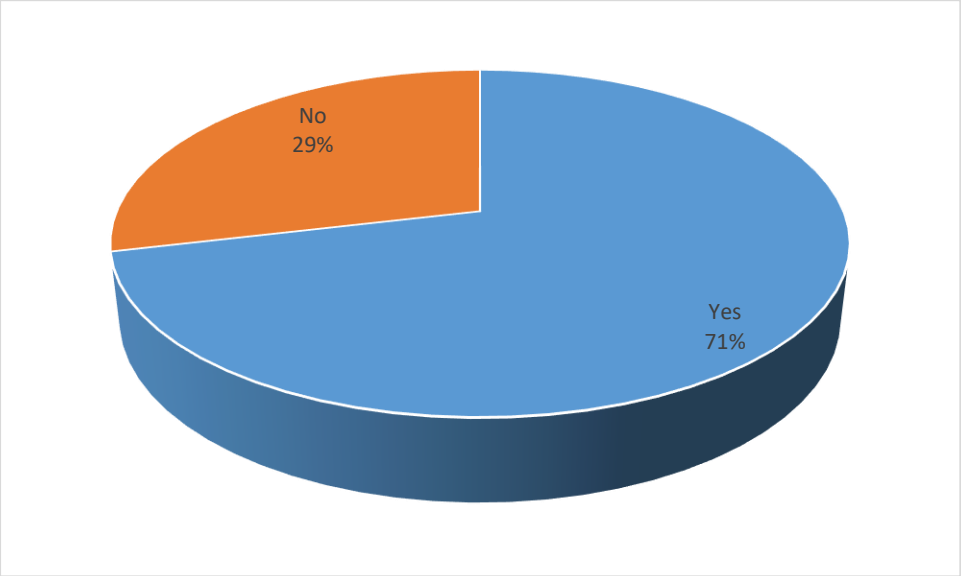
Figure 4.7: Years of Experience



4.3.7 Involvement in the Implementation of the Core Banking Software

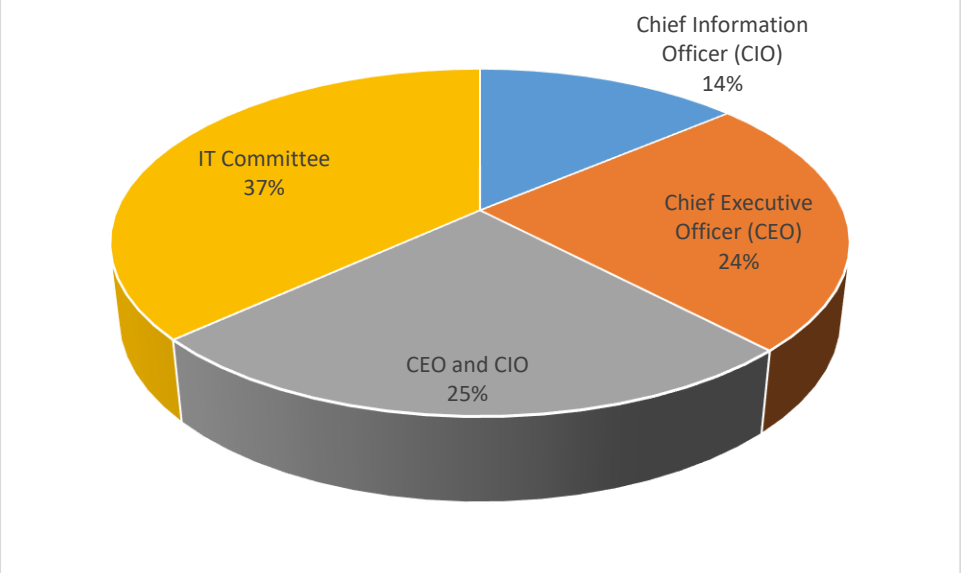
Respondents were asked if they were involved in the implementation of core bang software. Most of the respondents representing 71% respondents to the affirmative while 29% said they were not involved as presented in Figure 4. 8.

Figure 4.8: Involvement in the Implementation of the Core Banking Software



4.3.8 Key Core Banking Software Decisions

37% of the respondents indicated that the IT committee is the ones involved in key core banking software implementation decisions 25% indicated the CEO and the CIO while 24% indicated the CEO and 14% indicated the CIO.



4.4 Descriptive Statistics

Descriptive statistics which included percentages and the mean were used to describe the study variables which included; Information Technology, financial resources, and organizational culture, and project implementation of Core Banking Software.

4.4.1 Information Technology

The descriptive statistics for the variable information technology were derived and presented in Table 4.1.

Table 4.1: Descriptive Statistics for Information Technology

Statement	Very Low Extent	Low Extent	Moderate	High Extent	Very High Extent
The level of information technology in place has greatly assisted us to implement overall corporate strategies	5.70%	4.60%	27.60%	46.00%	16.10%
We have efficient and effective Information Communication Systems	1.10%	8.00%	24.10%	41.40%	25.30%
We have a technology audit committee that reviews the technology	2.30%	8.00%	8.00%	51.70%	29.90%
Our bank is quick to respond to the changes in technology	1.10%	5.70%	13.80%	47.10%	32.20%
Our bank updates and improves our ICT system	3.50%	3.50%	11.60%	45.30%	36.00%
There are provisions of adequate IT tools and equipment in our organization (E.g. Tablets, Laptops, Desktops, Internet, Printers, Scanners, etc.)	4.60%	5.70%	14.90%	44.80%	29.90%
There is an alignment of ICT strategy to business process re-engineering whenever there is a change in processes or IT systems.	0.00%	3.50%	17.40%	51.20%	27.90%
Our organization follows standard operating procedures to manage and maintain its information systems	0.00%	4.60%	12.60%	44.80%	37.90%
We have adequate back-up and disaster recovery procedures	1.10%	4.60%	8.00%	50.60%	35.60%

Mean	2.16%	5.36%	15.33%	46.99%	30.09%

The results in Table 4.1 showed that most of the respondents 46% stated that the level of information technology in place has greatly assisted them to implement overall corporate strategies to a high extent. Most respondents 41.4% also stated that they have efficient and effective Information Communication Systems to a high extent. Moreover 51.7% pointed that they have a technology audit committee that reviews the technology to high extent. In addition, 47.1% affirmed that to a high extent their bank is quick to respond to the changes in technology. Additionally, 45.3% stated that their bank updates and improves our ICT system to a high extent. Further, 44.80% pointed that there are provisions of adequate IT tools and equipment in our organization (E.g., Tablets, Laptops, Desktops, Internet, Printers, Scanners, etc. to a high extent. Furthermore, those who stated that there is an alignment of ICT strategy to business process re-engineering whenever there is a change in processes or IT systems to a high extent were the most at 51.2%. A further 44.80% affirmed that their organization follows standard operating procedures to manage and maintain its information systems to a high extent. Finally, most of the respondents representing 50.6% stated that they have adequate backup and disaster recovery procedures to a high extent. The mean showed that most of the respondents 46.99% affirmed the adoption of information technology aspects to a high extent. This was in line with Mwangi (2012) who found that investment in ICT systems and infrastructure has been a key element in productivity and growth in the banking industry as it enables banks to offer a broad variety of services to customers. Noor (2018) also found that the optimal use of ICT helps an organization create products and deliver services efficiently and effectively thereby helping in improving organizational competitiveness, increasing productivity, and enhancing firm performance through the implementation of appropriate strategies.

4.4.2 Financial Resources

Table 4.2: Descriptive Statistics for Financial Resources

Statements	Very Low Extent	Low Extent	Moderate	High Extent	Very High Extent
Our bank allocates adequate financial resources for core banking software related projects	4.60%	2.30%	17.20%	37.90%	37.90%
Our robust financing arrangements enable the bank to extend the better implementation of core banking software projects	2.30%	4.60%	11.50%	36.80%	44.80%
There is accountability on the use of financial resources allocated for core banking software projects	0.00%	8.00%	16.10%	42.50%	33.30%

The financial policy ensures that financial resources are allocated to areas of greater strategic need	3.50%	2.30%	17.40%	40.70%	36.00%
The bank uses policy controls to allocate financial resources to areas where they are able to result in greater efficiency	3.40%	4.60%	20.70%	36.80%	34.50%
Finances are properly controlled in our bank	0.00%	6.90%	12.60%	44.80%	35.60%
There are financial sustainability measures in the implementation of core banking software in your bank	0.00%	5.70%	18.40%	40.20%	35.60%
The allocation of financial resources in the implementation of core banking software in your organization is efficient and effective	0.00%	7.00%	14.00%	38.40%	40.70%
There are controls and processes to manage costs in the implementation of core banking software in your bank	1.10%	3.40%	17.20%	42.50%	35.60%
Mean	1.66%	4.98%	16.12%	40.07%	37.11%

As per the results in Table 4.2, most of the respondents 37.9% indicated that their bank allocates adequate financial resources for core banking software-related projects to a high extent and to a very high extent. Those who stated that their robust financing arrangements enable the bank to extend the better implementation of core banking software projects to a very high extent were the most at 44.80%. Further 42.5% indicated that to a high extent there is accountability on the use of financial resources allocated for core banking software projects. On the statement, the financial policy ensures that financial resources are allocated to areas of greater strategic need 40.7% indicated to a high extent. Most (36.80%) indicated that the bank uses policy controls to allocate financial resources to areas where they can result in greater efficiency to a high extent. Furthermore, 44.80% indicated that to a high extent finances are properly controlled in their bank. A further 40.2% indicated that there are financial sustainability measures in the implementation of core banking software in their bank to high extent. Forty point seven (40.7%) showed that the allocation of financial resources in the implementation of core banking software in their organization is efficient and effective to a very high extent. Finally, most of the respondents who were 42.5% revealed that there are controls and processes to manage costs in the implementation of core banking software in their bank to a high extent. Overall, most of the respondents representing 40.07% showed that the financial aspects are implemented to a high extent.

This was in line with the World Bank (2013) report that indicated that finances and capital resources form the epicentre of success or failure of any project globally; be it infrastructural, educational, and religious, or charity projects. The finances give rise to project quality through accessing qualified personnel, relevant technology, proper materials, and winning community support.

4.4.3 Organizational Culture

Table 4.3: Descriptive Statistics for Organizational Culture

Statements	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
There is openness among employees in my organization	0.00%	9.20%	18.40%	47.10%	25.30%
Our leaders personally inspire and motivate us to change	0.00%	5.70%	18.40%	42.50%	33.30%
In our institution, we believe in change	2.30%	3.40%	18.40%	42.50%	33.30%
Our organization's norms allow us to embrace change	2.30%	5.70%	14.90%	41.40%	35.60%
Our organizational culture is result-oriented	1.10%	1.10%	12.60%	48.30%	36.80%
There is minimum or no resistance to change in your organization during the implementation of core banking software	2.30%	4.70%	17.40%	44.20%	31.40%
There is management and staff ownership in your organization pertaining to the implementation of core banking software	1.10%	4.60%	10.30%	46.00%	37.90%
Mean	1.30%	4.91%	15.77%	44.57%	33.37%

According to the results in Table 4.3, most of the respondents who represented 47.1% agreed that there is openness among employees in their organization. The results also showed that most of the respondents representing 42.5% agreed that their leaders personally inspire and motivate them to change. A further 42.5% and who were the most agreed that in their

institution, they believe in change. Further 41.4% of the respondents and who were the most agreed that their organization's norms allow them to embrace change. Furthermore most (48.30%) agreed that their organizational culture is result-oriented. Moreover, most of the respondents representing 44.2% agreed that there is minimum or no resistance to change in their organization during the implementation of core banking software. Finally, most of the respondents who represented 46% agreed that there is management and staff ownership in their organization pertaining to the implementation of core banking software. These findings were also supported by a mean of 44.7% which asserted that most of the respondents agreed to most of the statements. This was in line with Song (2009) who asserted that the assessment and understanding of organizational culture assist in pinpointing the likely resistance to change because of incompatibility between organizational culture and change management strategies. It also helps choose whether to ignore the culture; manage around the culture, try to change the culture to fit the strategy; or change the strategy to fit the culture.

4.4.4 Implementation of Core Banking Software

Table 4.4: Descriptive Statistics for Implementation of Core Banking Software

Statements	Very Low Extent	Low Extent	Moderate	High Extent	Very High Extent
The bank has achieved the implementation purpose for core business systems	1.20%	1.20%	16.50%	50.60%	30.60%
Implementation of core business systems in our bank has increased its competitiveness	2.30%	7.00%	14.00%	38.40%	38.40%
Implementation of core business systems in our bank has led to timely completion of projects	1.10%	2.30%	12.60%	48.30%	35.60%
After the implementation of core banking software, our organization is more cost-effective and efficient resulting in customer and end-user satisfaction	2.40%	6.00%	13.10%	41.70%	36.90%
There was improved system availability and support after the implementation of Core banking software	0.00%	5.90%	12.90%	52.90%	28.20%
There is efficient through-put and turnaround after implementation after implementation of Core Banking Software in your organization	2.30%	4.60%	13.80%	43.70%	35.60%

There is low staff turn-over after implementation of core banking software in your organization	2.30%	5.70%	17.20%	46.00%	28.70%
Mean	1.66%	4.67%	14.30%	45.94%	33.43%

In regards to the implementation of core banking software, the results in Table 4.4 showed that most of the respondents (50.6%) indicated that the bank has achieved the implementation purpose of core business systems to a high extent. The responses for the statements implementation of core business systems in our bank has increased its competitiveness showed that most (38.40% and another 38.40%) indicated to a high extent. Further 48.30% of the respondents and who were the most indicated that implementation of core business systems in their bank has led to timely completion of projects to a high extent. Furthermore 41.7% of the respondents n dated that after implementation of core banking software to a high extent in their organization is more cost-effective and efficient resulting in customer and end-user satisfaction. Additionally, 52.9% of the respondents and who were the most indicated that there was improved system availability and support after implementation of Core banking software to a high extent. Moreover, 43.7% of the respondents representing the majority revealed that there was improved system availability and support after implementation of Core banking software to a high extent. Finally, those who indicated that to a high extent there is low staff turn-over after implementation of core banking software in their organization were the most at 46%. An overall mean of 45.94% supported the findings that most of the respondents revealed that the implementation of core banking software achieved its purpose to a high extent. According to Chien and Tsaur (2007), the measures of system implementation are; user satisfaction, project schedule, project goals, project budget, and system quality hence supporting the findings.

4.5 Diagnostic tests

4.5.1 Normality

For the normality test kurtosis and Skewness were used. Skewness values between -0.5 and 0.5 show that data is fairly symmetrical values between -1 and -0.5 and 0.5 and 1 are moderately skewed while less than -1 or more than 1 show that the data is highly skewed. Table 4.5 shows the results. For kurtosis values above 2 shows that data is not normally distributed. All the variables had Skewness values not less than -1 or more than 1 and kurtosis values less than 2 hence the data was normally distributed.

Table 4.5: Normality Test

	Skewness		**Kurtosis**	
	Statistic	**Std. Error**	**Statistic**	**Std. Error**
Information Technology	-0.188	0.258	1.632	0.511
Financial Resources	-0.368	0.258	1.313	0.511

Organizational Culture	-0.059	0.258	0.85	0.511
Implementation of Core Banking Software	-0.409	0.258	1.014	0.511

4.5.2 Linearity

Linearity was tested using the Breuch-Pagan test. The null hypothesis is that the data does not suffer from Heteroscedasticity if the p-value is greater than the 0.05. From the results, a p-value of 1 shows that the data was homoscedastic.

Table 4.6: Linearity

	Sum of Squares	df	Mean Square	F	Sig.
Regression	0	1	0	0	1.000b
Residual	8.312	85	0.098		
Total	8.312	86			

4.5.3 Multicollinearity

Multicollinearity was tested by a variance inflation factor. According to Field (2009) Variance Inflation Factor (VIF) values exceeding 10 and tolerance value, less than 0.2 indicates Multicollinearity. According to the results under table 4.7, the VIF values for all the variables were less than 10 and the tolerance values were more than 0.2 hence the data did not suffer from multicollinearity.

Table 4.7: Multicollinearity

	Collinearity Statistics	
	Tolerance	VIF
Information Technology	0.359	2.783
Financial Resources	0.345	2.897
Organizational Culture	0.316	3.166

4.5.4 Autocorrelation

Autocorrelation was tested using Durbin-Watson test. For Durbin-Watson values in the range of 0.5 to 2.5 show an absence of autocorrelation. The results under table 4.8 show a value of 1.814 hence the data did not suffer from autocorrelation.

Table 4. 8: Autocorrelation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.876a	0.768	0.759	0.316	1.814

4.6 Inferential Statistics

The inferential analyses that were conducted included correlation and regression analysis. This was to determine how the main independent variable, that BPR and its sub-variables, IT, Financial Resources, and Organizational culture affect the dependent variable, project implementation of core banking software at Kenyan commercial banks in Nairobi county.

4.6.1 Correlation Analysis

Correlation analysis was conducted in order to determine the direction of the relationship between the variables. Table 4.9 shows the correlation matrix.

Table 4.9: Correlation Matrix

		Information Technology	Financial Resources	Organizational Culture
Information Technology	Pearson Correlation			
	Sig. (2-tailed)			
Financial Resources	Pearson Correlation	.756**		
	Sig. (2-tailed)	0.000		
Organizational Culture	Pearson Correlation	.751**	.780**	
	Sig. (2-tailed)	0.000	0.000	
Implementation of Core Banking Software	Pearson Correlation	.733**	.760**	.855**
	Sig. (2-tailed)	0.000	0.000	0.000

** Correlation is significant at the 0.01 level (2-tailed).

The correlation results for the relationship between the dependent variable on implementation of core banking software and the independent variables information technology, financial resources, and organizational culture showed that information technology has a positive and significant correlation with the implementation of core banking software (r=0.733 p=0.000). The variable financial resources was also found to have a positive and significant correlation with the implementation of core banking software (r=0.760 p=0.000). This was in line with Lemarleni, Ochieng, Gakobo, and Mwaura (2017) who found that there exist both positive and significant correlations between the financial resources and strategy implementation. Further, the variable organizational culture depicted a positive and significant correlation with the implementation of core banking software (r=0.855 p=0.000). This agreed with those by Odero and Mutua (2016) who found organizational culture to be strongly correlated to implementation of strategic plans and was significant.

4.6.2 Regression Analysis

The regression analysis results are as in Tables 4.10, 4.11, and 4.12.

Table 4.10: Model of Fitness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.876a	0.768	0.759	0.316465

The results for model fitness showed that the R square was 0.768. This meant that the variables information technology, financial resources, and organizational culture explained 76.8% of the variation in the dependent variable implementation of core banking software. The remaining 23.2% could be explained by other factors that were not included in this study.

Table 4.11: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.489	3	9.163	91.492	.000b
	Residual	8.312	83	0.1		
	Total	35.801	86			

The results for ANOVA showed that the whole model that is used to explain the relationship between the independent variables and the dependent variable is significant (p=0.000).

Table 4.12: Regression of Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.311	0.234		1.328	0.188
Information Technology	0.185	0.091	0.18	2.036	0.045
Financial Resources	0.179	0.085	0.19	2.106	0.038
Organizational Culture	0.56	0.093	0.57	6.052	0.000
Dependent Variable: Implementation of Core Banking Software					

As per the results in Table 4.12, the variable information technology has a positive and significant relationship with the implementation of core banking software as explained by a beta coefficient (β) of 0.185 and a p-value of 0.045 which was less than 0.05. These findings matched those by Mwangi (2015) who found that the use of Project Management Software and Document Management Systems, in project management positively influences successful project completion. Dangolani (2011) established that Information technology contributes to

the banking system in three different ways as follows: IT saves the time of the customers and the employees conspicuously, IT cuts down the expenses and IT facilitates the integrated transactions.

The independent variable financial resources also depicted a positive (β=0.179) and significant (p=0.038) relationship with the implementation of core banking software. This was in accordance with the findings by Sambasivan and Soon (2007) that clients' financial position affects project timely completion and Onwonga (2015) who found that failure to allocate adequate finances to support strategy implementation influenced strategy implementation. Results also agreed with those by Muthiora and Moronge (2018) who asserted that there exists a strong positive relationship between financial resources and strategy implementation.

Finally, according to the results, organizational culture was also found to have a positive as well as a significant relationship with the implementation of core banking software (β=0.56 p=0.000). This implied that where there is a unit change in the aspects of information technology, financial resources, and organizational culture there would be a positive change in the implementation of core banking software. The findings agreed with those by Ndung'u (2018) who found that there is a moderate positive relationship between the dimensions of organisational culture and the process of implementation of quality management systems. Muthoni (2012) also asserted that for competitive advantage to be gained across Kenyan banks, strategy implementation should be aligned with strong organizational culture. However, findings contrasted with those of Wambura and Muchemi (2018) who found a person and task cultures to portray positive effects on strategy implementation while role and support cultures demonstrated negative effects.
The regression model was therefore affirmed as:

$$Y = 0.311 + 0.185X_1 + 0.179X_2 + 0.56X_3$$

Where;
Y = Project Implementation of core banking software,
X_1 – Information Technology (IT),
X_2 – Financial Resources,
X_3 – Organizational Culture

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

In this chapter, a summary of the findings based on the analysis conducted is provided. The chapter also provides a discussion on the conclusion of the study. Further, the recommendations for practice and policy based on the findings are provided in the chapter. The chapter further presents the limitations of the study and finally the recommendations for further studies.

5.2 Discussion

The summary of findings is hereby provided under themes reflecting the study objectives. The general objective of the study was to analyse the effects of business process re-engineering on project implementation of Core Banking Software at commercial banks in Kenya. The specific objectives were: To examine the effects of Information Technology on implementation of Core Banking Software at the Kenyan commercial banks; To assess the influence of financial resources on implementation of Core Banking Software at the Kenyan commercial banks and to determine the impact of organizational culture on the implementation of Core Banking Software at the Kenyan commercial banks. The target population was all the 42 commercial banks in Kenya and the respondents were employees of the banks. Data was collected using a questionnaire and analysed through descriptive correlation and regression analysis.

5.2.1 Information Technology

As the first objective, the study sought to examine the effects of information technology on the implementation of core banking software at the Kenyan commercial banks. The descriptive results showed that the integration of IT in organizational processes, provision of adequate IT tools and equipment, and the alignment of ICT strategy to business process re-engineering had been achieved in the Kenyan commercial banks to a high extent. This was according to the results of the descriptive statistics which showed that the high extent had the majority of the responses averaging at 46.99% for all the statements. According to the correlation results, the relationship between information technology and the implementation of core banking software was positive and significant. The regression analysis also showed that information technology and implementation of core banking software have a positive and significant relationship. The results concur with Noor (2018) who investigated the factors affecting strategy implementation among commercial banks in Kenya and found that IT influences strategy implementation in banks. The study also concurs with Opoku, Agbekor, Deku, and Adu (2016) who sought to know what factors drive core banking deployments in the financial industry, particularly in

developing countries and noted that IT resources are critical in the implementation of financial system core software.

5.2.2 Financial Resources

The study also sought to assess the influence of financial resources on the implementation of Core Banking Software at the Kenyan commercial banks as the second objective. Based on the descriptive statistics the findings indicated that among the Kenyan commercial banks the financial aspects which included the availability of funds, management of funds adequacy of funds, timely allocation of funds, financial Sustainability and the allocation, Efficiency, and Effectiveness of funds had been achieved to a high extent. This was supported by a mean of 40.07% for the high extent responses. Correlation analysis, as well as regression analysis, revealed a positive and also significant relationship between financial resources and implementation of Core Banking Software. This was in accordance with the findings by Sambasivan and Soon (2007) that clients' financial position affects project timely completion and Onwonga (2015) who found that failure to allocate adequate finances to support strategy implementation influenced strategy implementation. Results also agreed with those by Muthiora and Moronge (2018) who asserted that there exists a strong positive relationship between financial resources and strategy implementation.

5.2.3 Organizational Culture

The last objective of the study was to determine the impact of organizational culture on the implementation of Core Banking Software at the Kenyan commercial banks. The descriptive analysis results showed that the Kenyan commercial banks had to a high extent attained a teamwork culture stable culture, risk-taking culture, and result-oriented culture. The mean of the responses indicated that most of the respondents agreed with the statements as reflected by a mean of 44.57% for which the respondents agreed. The analysis of the relationship between organizational culture and implementation of Core Banking Software using correlation and regression analysis revealed a positive as well as a significant relationship. The findings agreed with those by Ndung'u (2018) who found that there is a moderate positive relationship between the dimensions of organisational culture and the process of implementation of quality management systems. Muthoni (2012) also asserted that for competitive advantage to be gained across Kenyan banks, strategy implementation should be aligned with strong organizational culture. However, findings contrasted with those of Wambura and Muchemi (2018) who found

a person and task cultures to portray positive effects on strategy implementation while role and support cultures demonstrated negative effects.

5.3 Conclusion

The findings indicated that most of the respondents indicated that the aspects of information technology had been implemented in their organization to a high extent as supported by the men score of 46.99% which was the highest. Based on the study findings, the study concludes that information technology has a positive and significant influence on the implementation of core banking software at the Kenyan commercial banks. The integration of IT in organizational processes and the provision of adequate IT tools and equipment as well as the alignment of ICT strategy to business process re-engineering leads to a positive change in the implementation of core banking software.

Study results showed that most of the respondents indicated that the aspects of financial resources had been implemented to a high extent as shown by a mean of 40.07% which was the highest. The study also concluded that financial resources has a positive and significant influence on the implementation of Core Banking Software at the Kenyan commercial banks. Where commercial banks make funds available, provide adequate funds, allocate the funds on time to ensure sustainability in terms of finances as well as effect and effectiveness in the utilization of funds directed towards the implementation of Core Banking Software then there's a positive change on the same.

According to the findings, the aspects of organizational culture have been implemented in the commercial banks which were supported by a mean of 44.57% of which the respondents agreed. Further, the study concluded that organizational culture has a positive as well as a significant influence on the implementation of Core Banking Software at the Kenyan commercial banks. Having a teamwork culture, stable culture, risk-taking culture, and result-oriented culture leads towards a positive achievement of the implementation of Core Banking Software. The study, therefore, concluded that business process re-engineering has a positive effect on the implementation of Core Banking Software at commercial banks in Kenya.

5.4 Policy Recommendations

The following recommendations were made based on the study findings.

5.4.1 Information Technology

The study found that information technology has a positive and significant influence on the implementation of Core Banking Software. This study, therefore, recommends that commercial banks in Kenya should embrace information technology in the implementation of Core Banking Software. The management should strategize on the effective ways to make the integration of information technology in the business reengineering process and also make avail information technology tools as well as aligning the ICT strategy to business process re-engineering. This study recommended that bank management should take advantage of information systems to continue leveraging the advantages of what this technology offers.

5.4.2 Financial Resources

Based on the findings that financial resources has a positive and significant influence on the implementation of Core Banking Software at the Kenyan commercial banks this study recommends that banks should give priority to the allocation of funds for the business reengineering process. Effective strategies for the allocation, management, sustainability and efficiency, and effectiveness of funds should be formulated and implemented in order to realize the effective implementation of Core Banking Software

5.4.3 Organizational Culture

Study findings revealed that organizational culture has a positive as well as a significant influence on the implementation of Core Banking Software at the Kenyan commercial banks. It is therefore important that commercial banks in Kenya should consider building a culture of teamwork that is calculated risk-taking and result-oriented. This will help in the implementation of Core Banking Software as all team members will be together in promoting and accepting a change that may seem a risk but which will bring results with the effective implementation of Core Banking Software.

5.5 Recommendations for Further Study

The study sought to analyse the effects of business process re-engineering on project implementation of Core Banking Software at commercial banks in Kenya. The specific aspects

that were assessed included information technology financial resources and organizational culture. Therefore, other studies can adopt other aspects of business process re-engineering. Future studies can also adopt other methodologies such as the use of exploratory research designs collection of secondary data and other methods of data analysis which may give more insights on the study topic. Other studies may also consider adopting the study in other organizations such as those in the manufacturing sector, government parastatals, and even in the small and micro enterprises which may have different opinions on the same. More so conducting the study among other financial institutions such as microfinance may provide more knowledge on the study topic.

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APPENDICES

Appendix I: Introduction Letter

Effects of business process re-engineering on project implementation of Core Banking Software: A Case of Kenyan Commercial Banks in Nairobi County.

The Respondent

Dear Sir/Madam

Re: Request for Research Data

My name is Alex Njaaga Mbugua a student at Strathmore Business School pursuing a Master's Degree in Business Administration. In partial fulfilment of the master's degree programme, I am required to carry out a research project and write a dissertation on a contemporary subject within my field of specialization. Among other activities, the project involves data collection and analysis. I hereby request to gather information to be used in this research in your organization. The information obtained will be used for this academic purpose only and shall be kept confidential. The results of the survey will not disclose any individual, company name and blogs in any way.

If you have any further questions about this study, you may contact me directly via my email addresses, alexnjaaga@gmail.com, alex.njaaga@strathmore.edu or call me directly on +254722964382.

Kindly access the questionnaire using the link below. It should take approximately 10 minutes.

https://docs.google.com/forms/d/e/1FAIpQLSc9BuoVJdX8mQG3J0iTNyzhUxvor3CuKPUIVKmmpDsshjyThw/viewform

Thank you very much for your time and cooperation.

Sincerely,
Alex Njaaga Mbugua
MBA/114123/19

Appendix II: Research Questionnaire

This questionnaire is structured to collect information analysis effects of Business Process Re-Engineering On Project Implementation Of Core Banking Software: A Case Of Kenyan Commercial Banks In Nairobi County. Kindly read the questions carefully and tick against the question as per your position or understanding and relevance to the study. Utmost confidentiality is assured as the data collected from this questionnaire will purely be used for academic purposes.

PART A: BACKGROUND INFORMATION

1. Number of Branches including Head Office?
   0 - 5 ( ) 6 – 10 ( ) 11 – 15 ( ) 16 – 20 ( ) 21 and above ( )

2. What is the number of staff members in your organization (Including executives & operational staff)
   1 - 20 employees ( ) 21 - 40 employees ( ) 41 - 60 employees ( ) 61 - 80 employees ( ) 81 and above employees ( )

3. Estimated number of concurrent System Users
   0 -50 ( ) 51 – 100 ( ) 101 – 150 ( ) 151 – 200 ( ) 201 and above ( )

4. What is the estimated number of active customers?
   0 – 200,000 ( ) 2000,01 – 300,000 ( ) 300,001 – 400,000 ( ) 400,001 and above

5. Which department do you work in?
   Information Technology ( ) Finance () Human Resource ( )

6. Working experience with the current employer: -
   0 - 5 ( ) 6 – 10 ( ) 11 – 15 ( ) 16 – 20 ( ) 21 and above ( )

7. Were you involved in the implementation of the core banking software?
   Yes ( ) No ( )
8. Who is/are taking key core banking software decisions in your organization?

Chief Information Officer (CIO) ( ) Chief Executive Officer (CEO) ( )

CEO and CIO ( ) IT Committee ( )

Any Other (Please specify).....

PART B: BUSINESS PROCESS RE-ENGINEERING

PART B1: INFORMATION TECHNOLOGY (IT)

11. Kindly indicate the extent to which you agree with each of the statements by using the following scale:

Use 1 – Very Low Extent, 2 - Low Extent, 3 – Moderate Extent 4 – High Extent, 5- Very High Extent

Statement	**1**	**2**	**3**	**4**	**5**
The level of information technology in place has greatly assisted us to implement overall corporate strategies					
We have efficient and effective Information Communication Systems					
We have a technology audit committee that reviews the technology					
Our bank is quick to respond to the changes in technology					
Our bank updates and improves our ICT system					
There are provisions of adequate IT tools and equipment in our organization (E.g Tablets, Laptops, Desktops, Internet, Printers, Scanners, etc)					
There is an alignment of ICT strategy to business process re-engineering whenever there is a change in processes or IT systems.					
Our organization follows standard operating procedures to manage and maintain its information systems					
We have adequate back-up and disaster recovery procedures					

PART B2: FINANCIAL RESOURCES

12. Kindly indicate the extent to which you agree with each of the statements by using the following scale:

Use 1 – Very Low Extent, 2 - Low Extent, 3 – Moderate Extent 4 – High Extent, 5- Very High Extent

Statement	**1**	**2**	**3**	**4**	**5**
Our bank allocates adequate financial resources for core banking software related projects					
Our robust financing arrangements enables the bank to extend better implementation of core banking software projects					
There is accountability on the use of financial resources allocated for core banking software projects					
The financial policy ensures that financial resources are allocated to areas of greater strategic need					
The bank uses policy controls to allocate financial resources to areas where they are able to result in greater efficiency					
Finances are properly controlled in our bank					
There is financial sustainability measures in the implementation of core banking software in your bank					
The allocation of financial resources in the implementation of core banking software in your organization is efficient and effective					
There are controls and processes to manage costs in implementation of core banking software in your bank					

PART B3: ORGANIZATIONAL CULTURE

13. Kindly indicate the extent to which you agree with each of the statements by using the following scale:

Use 1 – Strongly Disagree, 2 - Disagree, 3 – Moderate 4 – Agree, 5- Strongly Agree

Statement	**1**	**2**	**3**	**4**	**5**
There is openness among employees in my organization					
Our leaders personally inspire and motivate for us to change					
In our institution, we believe in change					
Our organizations norms allow us to embrace change					
Our organizational culture is result oriented					
There is minimum or no resistance to change in your organization during implementation of core banking software					
There is management and staff ownership in your organization pertaining the implementation of core banking software					

PART C: IMPLEMENTATION OF CORE BANKING SOFTWARE

14. Kindly indicate the extent to which you agree with each of the statements by using the following scale:

Use 1 – Very Low Extent, 2 - Low Extent, 3 – Moderate Extent 4 – High Extent, 5- Very High Extent

Statement	**1**	**2**	**3**	**4**	**5**
The bank has achieved the implementation purpose for core business systems					
Implementation of core business systems in our bank has increased its competitiveness					
Implementation of core business systems in our bank has led to timely completion of projects					
After the implementation of core banking software, our organization is more cost-effective and efficient resulting in customer and end-user satisfaction					
There was improved system availability and support after the implementation of Core banking software					

There is efficient through-put and turnaround after implementation after implementation of Core Banking Software in your organization					
There is low staff turn-over after implementation of core banking software in your organization					

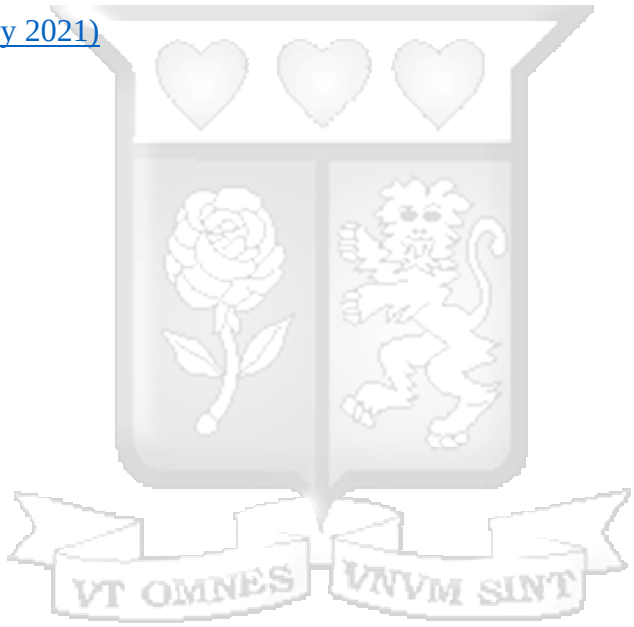
Thank you for your cooperation

Appendix III: List of Commercial Banks in Kenya as of 2nd February 2021

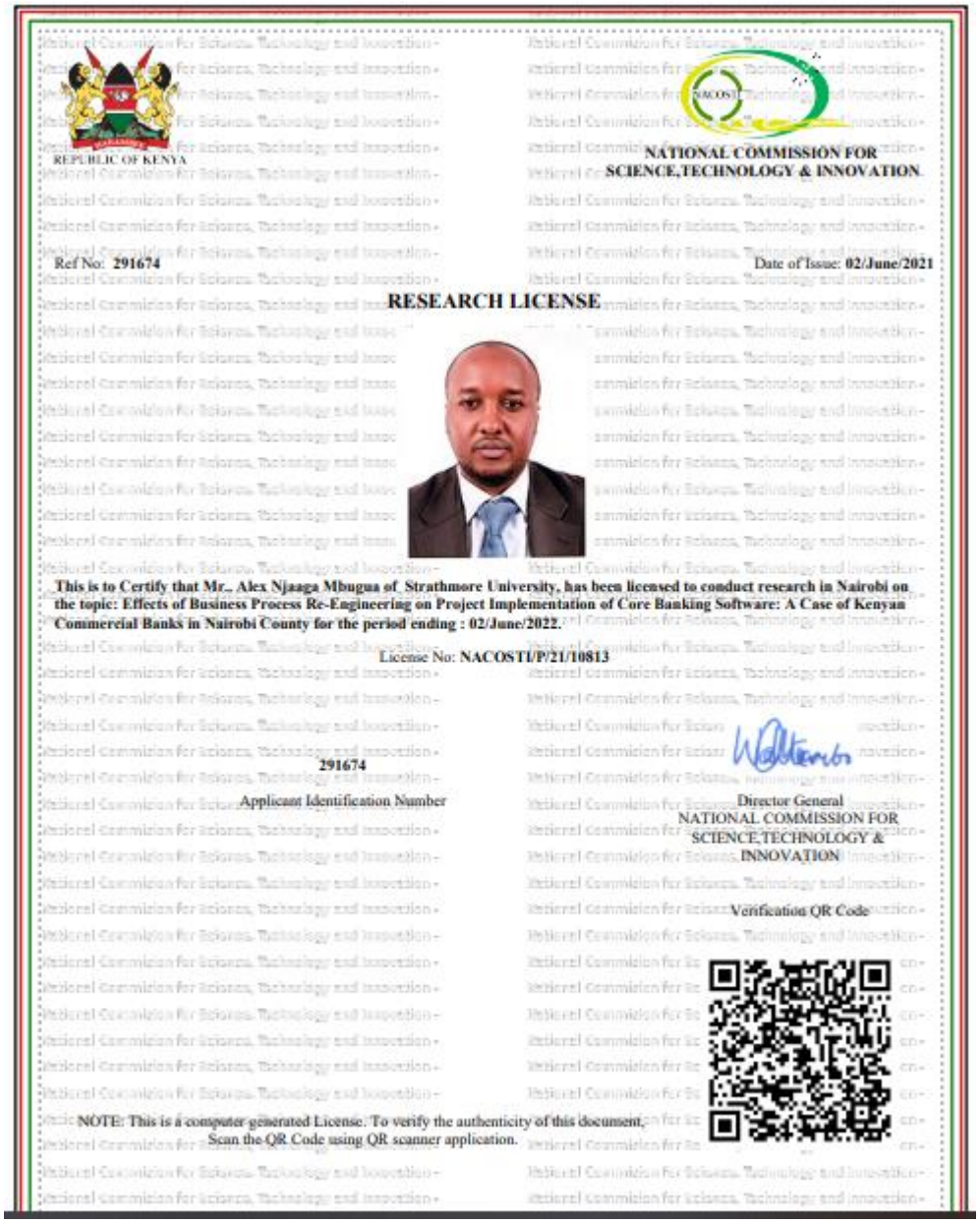
1. Absa Bank Limited
2. African Banking Corp. Ltd
3. Bank of Africa Kenya Ltd
4. Bank of India
5. Bank of Baroda (K) Ltd
6. Stanbic Bank Ltd
7. Chase Bank (K) Ltd (In Receivership)
8. Citibank N.A.
9. Consolidated Bank of Kenya Ltd
10. Co-operative Bank of Kenya Ltd
11. Credit Bank Ltd
12. Development Bank (K) Ltd
13. Diamond Trust Bank (K) Ltd
14. Dubai Bank Ltd (In Receivership)
15. Dubai Islamic Bank (Kenya) Ltd
16. Ecobank Limited
17. Spire Bank
18. Equity Bank Ltd
19. Family Bank Ltd
20. Guaranty Trust Bank
21. First Community Bank Ltd
22. Guardian Bank Ltd
22. Gulf African Bank Ltd
24. Habib Bank A.G. Zurich
25. HFC Ltd
26. Imperial Bank Ltd (In Receivership)
27. I & M Bank Ltd
28. Jamii Bora Bank Ltd
29. KCB Bank Kenya Ltd
30. Mayfair Bank Ltd
31. Middle East Bank (K) Ltd
32. M Oriental Bank Ltd
33. National Bank of Kenya Ltd

34. NCBA Bank Kenya
35. Paramount Universal Bank Ltd
36. Prime Bank Ltd
37. Sidian Bank
38. Standard Chartered Bank (K) Ltd
39. SBM Bank (Kenya) Ltd
40. Transnational Bank Ltd
41. UBA Kenya Bank Ltd
42. Victoria Commercial bank Ltd

Source: Central Bank of Kenya Website (2021) https://www.centralbank.go.ke/bank-supervision/directory-of-licenced-commercial-banks-mortgage-finance-institutions-and-nohcs-3/ (02nd February 2021)



Appendix IV: NACOSTI Clearance



REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **291674**

Date of Issue: **02/June/2021**

RESEARCH LICENSE

This is to Certify that Mr., Alex Njaaga Mbugua of Strathmore University, has been licensed to conduct research in Nairobi on the topic: Effects of Business Process Re-Engineering on Project Implementation of Core Banking Software: A Case of Kenyan Commercial Banks in Nairobi County for the period ending : 02/June/2022.

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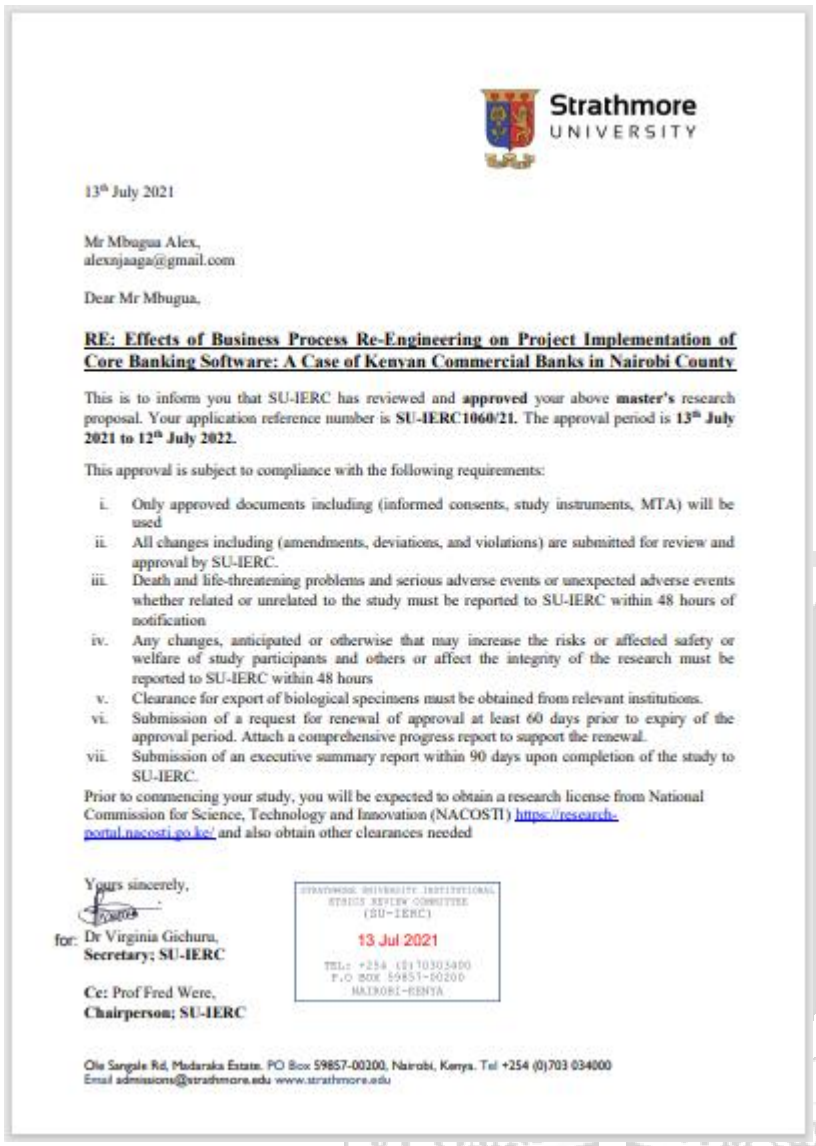
Appendix V: Ethics Approval



Strathmore UNIVERSITY

13th July 2021

Mr Mbugua Alex,
alexnjaaga@gmail.com

Dear Mr Mbugua,

RE: Effects of Business Process Re-Engineering on Project Implementation of Core Banking Software: A Case of Kenyan Commercial Banks in Nairobi County

This is to inform you that SU-IERC has reviewed and **approved** your above **master's** research proposal. Your application reference number is **SU-IERC1060/21.** The approval period is **13th July 2021 to 12th July 2022.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 48 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 48 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and also obtain other clearances needed

Yours sincerely,

for: Dr Virginia Gichuru,
Secretary; SU-IERC

STRATHMORE UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE (SU-IERC)
13 Jul 2021
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Cc: Prof Fred Were,
Chairperson; SU-IERC

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Appendix VI: Plagiarism Report

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