THE EFFECT OF DIGITAL TRANSFORMATION ON CAPITAL-LABOUR RATIO IN THE COMMERCIAL BANKING SECTOR IN NAIROBI, KENYA

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DECLARATION

This project is my own original work and has not been presented for any award in any other university or college

Signature: ……. Date: 24/11/2021

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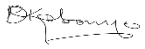
This research project is presented for examination with my approval as the university supervisor.



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DEDICATION

This research project is wholeheartedly dedicated to my beloved husband and children who have been a constant source of encouragement and support through the challenges of life and graduate school. I am very grateful to God for having you in my life. This study is also dedicated to my parents who have unconditionally loved and supported me and from whom I have learnt the value of hard work in all the things that I aspire to achieve in life.

ACKNOWLEDGEMENT

My sincere gratitude goes to my supervisor, Professor Peter K'obonyo for the consistent support I have received from him in this study, his patience, motivation, enthusiasm, immense knowledge and experience contributed immensely in the completion of this research project. I could not have asked for a better supervisor.

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ABBREVIATIONS AND ACRONYMS

AML: Anti-Money Laundering

ATMs: Automated teller machines

CBK: Central Bank of Kenya

KYC: Know Your Customer

PLCS: Programmable Logic Controller software

ABSTRACT

Digital transformation boosts productivity and hence raises revenues and consumption per capita. Over the last ten years there has been an extensive adoption of digitalization by banks in Kenya. This has resulted to slowed branch activities as the growth of digital banking solutions is embraced by customers. There have been notable gains in digitalization which are tied to economic recovery and revenue diversification which has resulted to increased efficiency in banking operations. The researcher also observed that there was an increase in wages and salaries which is contrary to the expectation that banks would accrue some savings on staff costs from a leaner workforce that is more efficient. This trend can be attributed to an increase in staff salaries as employees acquire additional technological skills leading to an improved bargaining power in terms of salaries. There was therefore a conceptual gap that warranted a study in order to understand whether banks were prepared to bear with the rising costs arising from the increased wage bill despite their heavy investment in digitalizing. The study was guided by the following objective; to determine the effect of digital transformation on the capital-labour ratio in the commercial banking sector in Nairobi, Kenya. The study focused on two theories, theory of diffusion of innovation and theory based on resources. Descriptive cross-sectional survey design was used in this study. The target population comprised all the 42 commercial banks in Nairobi, Kenya. Data was coded and verified with the use of a Microsoft Excel software to ensure correctness and completeness. Data analysis was carried out using SPSS, software version 23. The respondents' profiles were summarized and analyzed using descriptive statistics including frequencies, means, standard deviations and percentages. The evaluated data was then presented through tables, graphs and discussion of the results. The effect of digital transformation on capital-work ratio of commercial banks in Nairobi, Kenya was tested by means of a regression analysis. The study found that cost of labour is affected inversely by the changes in digital transformation. There was sharp increase in digitalization between the year 2014 and 2015. Besides, in 2012 and 2013 there was sharp decrease of payroll costs which may be attributed to high job losses in the sector as a result of banks adopting digital technology during this period. The study concluded that access to digital banking technology inversely influenced the capital-labour ratio of commercial banks in Nairobi, Kenya. This could be attributed to the trends recorded in the variables whereby access to digital platforms by users, reduction in operating costs and improvements in turnaround time had an inverse and positive contribution to capital-labour ratio of commercial banks in Nairobi, Kenya. The study recommends that financial institutions should offer low transaction charges for customers using their digital platforms and provide secure digital environment that guarantee security of customers deposits and information at all times. This will attract more customers to take up digital banking services thus ensuring the future sustainability of the banking business. Furthermore, the use of digital banking technology may be a strategic and cheaper option for banks to render banking services to people living in the remote parts of Kenya that are still unbanked thus increasing financial inclusion in the country. Finally, the study recommends that commercial banks in Nairobi, Kenya should ensure that systems failures and down-times are kept at the bare minimum in order to enhance service delivery and thus reduce the operating costs of commercial banks in Nairobi, Kenya

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Digital transformation has affected every aspect of human life (Merlyn, 2017). It is spreading throughout every sector of the economy and has implications on almost every business enterprise. Digital transformation has changed our way of life, the way we communicate, the way we learn, and the way think. It provides huge opportunities for the development of business and therefore introducing substantial changes on how businesses are organized both in terms of organizational structure and management pattern. The importance of human capital increases proportionately with the speed of the business changes given that human capital represents a basic qualitative parameter of success in any business change process. Therefore, to be effective, businesses need to look for ways to effectively balance the two in order to leverage on benefits of technology as well as unique attributes of human capital (Roberts, 2018).

The study focuses on two theories, theory of diffusion of innovation (Rogers, 1995) and theory based on resources (Penrose, 1959). Five elements relating to innovation characteristics affect the choice to take innovations in the theory of innovation dissemination. These are perceived utility, matching requirements, complexity, testability and visibility with the technology-driven social system. Innovators, quick adopters, early mainstream and late mainstream are the categories of adopters according to theory. The resource-based theory on the other hand propounds that an organization can develop competitive advantage over its rivals when it has a strategic resource (Barney, 2019). It can assist firms to create strategies to capitalize on human capital opportunities. Strategic resources provide organizations with a competitive edge against their rivals by aligning the human resources, skills and expertise in their core competence (Blanchard, 2017). In this case, core competence is what puts the organization in a better place than its competitors (Tadashi and Liu, 2017).

Banks have experienced tremendous growth in the digitization of their services from simple computerization to installation of ATMs and lately internet banking. This transformational

change has implications for human capital in terms of numbers and type of skills (Teo and Awiti, 2017). The Kenyan banking sector move towards advanced digital transformation has threated nearly 30% percent jobs in the sector due to the fact that a bulk of the work is left to the few employees who have much to do in the expense of digitalization (GoK, 2019). These issues are connected in part with a country's specific labor market performance since they can either slow down recovery or impede additional gains (Sanchez, 2018).

1.1.1 Digital Transformation

Digital transformations are the changes in the manner in which digital technologies are implemented in an organization, the roles and business opportunities. These changes come at several levels in an organization, including: Process level where organizations are adopting technologies that allow them to streamline their processes, automating tasks and reducing manual labor (Jennifer and Kerry, 2016). The second level is the organization level where organizations are offering new services and discarding obsolete practices. In this regard, existing processes are offered in new, more digital ways. The third level is the business domain level where there is a change of roles and value chains in ecosystems. The last level is the society level where there are changes in the societal structures of an organization. These changes affect how people work, interact and influence decision-making (Lucas, 2016). The impact of digital transformation can be identified from three viewpoints which include internal efficiency where digital transformation allows organizations to streamline their own internal processes through changes in roles and tasks (Camison and Lopez, 2018). External opportunities is the second one, where digital transformation can lead to new business opportunities in existing business domains through new services, customers and insights. While the third one is disruptive change where digitalization completely changes the entire business domains (Smith and Reece, 2019).

As digital technologies rapidly evolve, and businesses are increasingly focusing on adapting the very leading edge of technology, market situations are changing faster than ever before. Businesses are becoming digital, using technologies to create new operational models, processes, software and systems, and taking advantage of the convergence of individuals, businesses and goods (Teo and Awiti, 2017). New product and service possibilities emerge and corporate activities are changed from this constant development, which results in a greater income, efficiency and competitive advantage. By swiftly

adjusting to the changes and utilizing opportunities that occur, the competitive edge may be maintained. Agility and digitalization are therefore closely related and leading factors for competitiveness that should be prioritized by businesses. This requires a transformation of operations through the use and integration of digital technologies which ultimately leads to a significant impact on the products, processes, and services of the company. It also influences the organizational structure and leads to the establishment of new management rules (Sanchez, 2018). A digital transformation strategy works well when coordinated with all the other business strategies. Ultimately, organizations become efficient when they use these digital innovations and take advantage of all the opportunities they create.

1.1.2 Capital- Labour Ratio

The ratio of capital employed to workers employed is the ratio of capital labour. The K/L ratio can assess the capital or labor intensity of a company (Sala and Silva, 2019). In general, companies have a greater capital and work ratio throughout time, with the intention of improving productivity by investing in capital and automating manufacturing and/or service delivery operations. For example, banks have automated their service delivery channels to customers through the use of mobile and internet banking as well as virtual savings and credit technological platforms. In this study capital-labour ratio is defined as the proportion of capital employed or invested in digitalization by commercial banks compared to the cost of labour employed. The cost of capital employed in digitalization will include the costs related to training staff on the new digital technologies adopted by banks.

Developing a solid capital-labour ratio base is a pre-condition for industrialization, growth and development in every nation. According to Sheu (2018), the forces of competition, technology, globalization, legislation, consumer empowerment and implementation of good practices have resulted in a paradigm shift in their business imperatives, growth perspectives and human capital management. Therefore, to provide a world class service that creates value, organizations have had to transform and leverage on technology in order to offer better services and achieve a competitive advantage. At the same time, managers and organizations have adopted new ways of working practices with diverse implications on the well-being of workers in their efforts to take advantage of the advantages of digital transformation and to facilitate the shift towards new technology. The adjustments that

were implemented to accompany digital workplace transformation included organizational reforms and capital-employment investment (Teo and Awiti, 2017).

1.1.3 Kenya Commercial Banking Sector

The banking industry is one of the major sectors of the Kenyan economy and plays a major and important role in the development of the economy, society, technology and infrastructures, creating employment possibilities, incomes for people and the country and transfers of technology between all other sectors (Gakure and Ngumi, 2018). In Kenya the banking industry includes 43 banks (42 corporate banks and 1 MFB) (Warui, 2018). Based on market share, asset base and the quantity of client deposits, the Central Bank of Kenya categorized the commercial Banks into three levels. These are banks of Tier 1 that are major banks, of Tier 2 that are small banks of medium size and of Tier 3. The industry offers financial goods and services that include investing, consultation, training, loans and other financial advances. In all counties in Kenya, most companies working in the banking industry are scattered around the county. The banking industry was among the most popular and profitable sectors of the economy but in recent years the business has been broken up into more disadvantageous scenarios (Mwangi, 2017).

In recent days banks are forced to invest heavily in digital technology to cope up with their competitors (Odhiambo, 2016). Digitalization provides more ways to reach potential customers, at the same time, improving on service delivery (Omari, 2018). However, the influence of digitalization in the banking sector has reduced human intervention and made most of the jobs redundant (KNBS, 2019). This has led employees to be concerned about their job security, with the reason behind their anxiety being that majority of day-to-day banking operations can be done without dependency of workforce at the branches. The Kenya banking sector move towards advanced digital transformation has threated nearly 30% percent jobs in the sector (GoK, 2019).

1.2 Research Problem

Technological advancement is a key engine for global economic growth and living standards improvements (Jennifer and Kerry, 2016). Digital transformation boosts productivity and hence raises revenues and consumption per capita. While increasing employee flexibility and profitability, many non-standard employment arrangements lead to a precarious capital-labor ratio whereby employees themselves are obliged to take

security of job and income risks (Smith and Reece, 2019). In Kenya, digital transformation has enabled the commercial banking sector to increase the diversity of customer touch points through which they reach their customers. As such, the commercial banking industry has become one of the primary users of technology in every facet of their business operations.

Over the last ten years there has been an extensive adoption of digitalization by banks in Kenya (KNBS, 2019). This period has seen a decrease in the growth of branches with a total of 35 branches closing doors in the year 2020 which translates to a decline of 15% (CBK, 2020). During the same period there was an increase in digital channels like ATMS and agency banking which recorded an increase of 7% and 12% respectively. This has resulted to slowed branch activities as the growth of digital banking solutions is embraced by customers. Consequently, banks have been left to handle advisory services, wealth management and high-value transactions. There have been notable gains in digitalization which are tied to economic recovery and revenue diversification which has resulted to increased efficiency in banking operations. However, it is noted that there has been a decrease in the number of staff through normal attrition and layoffs. The researcher has also observed that there has been an increase in wages and salaries which is contrary to the expectation that banks would accrue some savings on staff costs from a leaner workforce that is more efficient. This trend can be attributed to an increase in staff salaries as employees acquire additional technological skills leading to improved bargaining power in terms of salaries. There is therefore a conceptual gap that needs to be investigated in order to understand whether banks are prepared to bear with the rising costs arising from the increased wage bill despite the banks' huge investment in digitalizing.

There are only a few studies that have been done on the effects of digital transformation on capital-labour ratio. Sala and Silva (2019) did a case study of banks in Britain addressing the effects of digital transformation on elements of capital-labour insight. The findings demonstrate that the advantages of digital transformation improve client experience, digital interactions and new income models. There is need to conduct a study in the Kenyan context which vary from Britain which is a developed county and as such, there exists a discrepancy given that the differences in the levels economic development and the different laws that regulate the banking sectors of the two countries. Umoru and Yaqub (2018) evaluated the effects of digital transformation on capital-labour ratio in Swaziland health

sector. The study focused on digital transformation and how it affects work interactions particularly with customers. The study was however done in the health sector which warrants another study to be carried out in the banking sector to ascertain whether the findings will be similar or not.

Tadashi and Liu (2017) conducted a study in Japan to evaluate the effect of digital transformation on capital-labour ratio which was a case study of Hiroshima Bank. The study found that investing in both human and equipment resources will increase firm efficiency and non-production activities such as well-defined tasks. However, the study also found that factors such as new technological investments, planning and management reformation could not be linked to decreased capital-labour ratio. The study used correlation analysis and the results show that digital transformation affects capital-labour increased significantly albeit negatively. This study was confined to only one bank and there's therefore a need to carry out a study targeting all commercial banks and more so in Kenya in order to reinforce generalization of the findings.

Locally, a number of studies have been done on the effect of digital transformation on capital-labour ratio. Mwangi (2017) studied digital channels and labor productivity in the manufacturing industry in Kenya. The study found that firms that adopted digital channels had reduced capital-labour ratio. These findings are applicable to the manufacturing industry and it cannot be assumed that they will automatically apply to the banking sector given the significant differences in the two sectors. There is need to replicate the study in the banking sector in Kenya and compare the results. A study by Odhiambo (2016) evaluated the effect of digital transformation on capital-labour ratio in the small medium enterprises in Kisumu. The study findings show a significant linkage between digital transformation and capital labour ratio which further influences labor productivity to a great extent. The findings indicated show that a 10% increase in digital transformation leads to about 2% increase in capital-labor ratio. The current study will target commercial banks in Kenya which have differences as they cut across the SME space. Large firms exhibit higher capital-labour ratio as well as investment in digitalization drawing a need to assess the empirical gap which the current study addressed.

The foregoing demonstrates a need for a study to explain how digital transformation affects capital-labour ratio specifically in the banking sector in Kenya which has been neglected.

The researcher thus aims to find the answer to the question: what is the effect of digital transformation on capital-labour ratio in the commercial banking sector in Kenya?

1.3 Research Objective

The study was guided by the following objective; to determine the effect of digital transformation on the capital-labour ratio in the commercial banking sector in Nairobi, Kenya.

1.4 Value of the Study

The current study will have consequences for the formulation of policies. The results of this research are intended to inform the benefits of digital transformation to improve efficiency and threaten to reduce the ratio between capital and labor. CBK and other policymakers will utilize the findings to develop rules and regulations that encourage and enhance their performance of the use of digital technology in commercial banks in Kenya.

In practice, banking managers can profit from the study since they will utilize the results to decide on a product or procedure for digital advancements. They will be educated by the digital adoption of the issues that commercial banks face. This will drive institutions that fear the technology after discovering its advantages.

The researcher will benefit from the study as she will gain insight on the effect of digital transformation in the digital world. Further, future researchers who will be interested to conduct research in this area might exploit the outcomes of this research as a point of suggestion to further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews studies done by other scholars in relation to digital transformation on capital-labour ratio. The section commences with theories that inform the discussion of digital transformation on capital-labour ratio. Empirical literature is presented and gaps of the studies drawn. The conceptual model showing the linkage of variables concludes the chapter.

2.2 Theoretical Foundation

Two theories have been selected and underpin the study. The theories are innovation diffusion theory and resource-based theory. They are explained below;

2.2.1 Innovation Diffusion Theory

Innovation from Rogers (1995) the theory of diffusion is a common concept used to describe the application of new technologies by the user in information systems research. Rogers defines diffusion as a method by which the members of a social community can transmit an invention over time (Rogers, 1995). A concept or thing believed to be novel is an innovation (Kleijnen and Smits, 2013). The idea indicates that a relative benefit, complexity, compatibility, trialability and observability of an innovation impact the rate of dissemination.

Neu and Brown (2017) postulated that, the innovation diffusion theory concerns the spread of new ideas, technologies, and processes. The theory has been applied in situations such as innovation-decision process when adopting a given technology. McAdam and Keogh (2017) explain that the process involves learning about the technology and developing attitude towards it. Organizations that develop positive attitude towards a given technology gain its benefits, which include reduced cost and increased efficiency. The decision on whether to accept or reject given technology is dependent on the nature of attitude that an individual develops. The process between acceptance of technology and its adoption occurs in five steps, beginning with knowledge phase (Jimenez and Sanz-Valle, 2019).

The stage involves exposure of the individuals to the technology where they are informed about the existence of technology, the need to adopt it, and underlying factors that affect its functioning including internet (Alpkan, 2017). Innovation is influenced by the principles of knowledge however; this is not a necessity. However, the lack of knowledge about a technology is one of the leading barriers to its adoption. Organizations that reject technology do not perform well in the market as they may experience low demand for their product for the failure to meet customer needs. In addition to satisfying consumers, innovative products have high value (Coombs and Meyer, 2016).

Innovation involves the creation of new technologies. The business environment has continually changed due to forces of technological changes hence the need for innovativeness to cope with the competition (Auken and Guijarro, 2018). The theory predicts that new skills and concepts once recognized, they spread into the external environment and the society at large (Cho and Pucik, 2018). Innovation can be either for personal benefit or it can be part of a business organization. Strategic decisions aimed at gaining competitive advantage. Innovation involves the adoption process and it ranges from the point knowledge is gained up to the point of forming attitudes regarding innovations. Attitude involves people making decisions on accepting the innovation or rejecting the innovation.

2.2.2 Resource Based Theory

7The resource-based approach of Penrose (1959) stresses restricting the behavior of rivals, stating that companies are acquiring or developing unique, precious, and uncommon resources which rivals cannot reproduce. Resources provide an organization with a competitive edge, if they stay rare or difficult to replicate, have no immediate replacements and allow an organization to search for possibilities. The resource-based perspective suggests that capital and organizational resources can offer an organization a persistent competitive benefit above and above physical, technical or financial resources, since they are difficult to imitate (Eiler and Jones, 2019).

The resource-based approach of the firm theory is that key capabilities fundamental to competitive advantages in an organization must be derived through internal growth inside an organization (Lindman and Fernandez, 2019). Elements like value, rarity, imitability, and immobility describe the key competencies. Talents with core competences are the

investment and capital that a company deserves attention. The view based on resources shows that corporate staff are a company's most valuable asset and the rivals can hardly reproduce such capital. The Capital/Working Rate is a rare, desirable resource which will drive the company into a competitive advantage, says Sternberg and Lubart (2018).

Capital-labor may be used as a catalyst to change through the resource-based theory, which creates a vital and lacking connection for companies working in an increasingly competitive and knowledge intensive global market and preserves their competitive advantage. The value of many different people working together is fairly high and, given the mix, it is hard for rivals to duplicate. In this view, it is obvious that a company's resources play a large part in the strategic implementation process. Knowledge, the connections between resources, capacity and competitive advantage are fundamental to a resource-based approach to strategic planning. That is because regardless of how brilliant the plans are, they stay in the planning phase without the resources essential to enable the execution. A company having a variety of competent capital workers should thus be more competitive.

2.3 Digital Transformation and Capital-Labour Ratio

Lucas (2016) conducted a study on the effect of digital transformation on capital-labour ratio which was a case study in Maryl commercial banks in Sweden. Research findings have shown that employees had moderate assessments of outcomes of leadership and management-related organizational development activities as a result of digital transformation. The following factors, economic efficiency, data security, efficient workflows and employee happiness were shown to have a statistically important positive connection at a level of 4 percent. However, he did not conduct any statistical evaluation of capital- labour ratio targeting bank employees but rather the assessment was based on customer’s perspective.

Camison and Lopez (2018) studied the perspective of bankers of digital transformation in Japan with the aim of studying bankers' perceptions of bankers' use of digital transformations and their consequences for providing services to banks. The study however ignored aspects of capital labour ratio in relation to improved firm performance, if any, due to digital transformation implementation.

Barney (2019) evaluated the effect of digital transformation on organizational development in Nigerian banks. Cashless transactions were made possible and this had a significant influence on capital labour ratio. However, the study was limited to Nigeria's commercial nerve core and focused on only one bank.

Blanchard (2017) examined the impact of digital transformation on capital labour ratio effectiveness in the organization of libraries and museums in Germany. The research revealed a favorable impact on labor productivity for human capital and investment in digital transformation. In addition, the study has not examined the influence on capital labor in developing countries such as Kenya of the digital transformation of commercial banks.

The links between the digital transformation and the performance of capital work in Libya are examined by Aduda and Kingoo (2018). The survey was based on a representative sample of banking businesses, government organizations, hospitals and insurance companies, suppliers of internet services, logistical companies, telecommunications and working universities. The outcomes of the study suggest that the perceived ease of use; attitude, intention and communication influence the ratio of capital labor most significantly. The results reveal that the risk, system safety, organizational role and availability of digital resources are judged to be less digitally adopted. The study only focused on both mediating and moderating effect while direct effect was ignored.

Locally Gakure and Ngumi (2018) investigated whether banking innovations affect commercial banks' capital turnover in Kenya. The study revealed that the statistically significant effect of bank innovation on the bank capital ratio. This indicates that the overall effect on commercial banks' staff turnover in Kenya is statistically significant for the research. The empirical research investigations were focused on the strategic management and linear econometric data analysis. The study conclusion points lack of in depth understanding of digital transformation, what its antecedents are, and how it affects capital labor ratio of firms.

2.4 Summary of Literature and Research Gaps

Table 2.1 shows the reviewed studies with research gaps to be filled.

Table 2.1: Summary of Literature and Research Gaps

Author(s)	Study	Research Findings	Research Gap
Lucas (2016)	Effect of digital transformation on capital-labour ratio	Research findings reveal that employees have a middling assessment of the results of leadership and governance-related organizational development activities resulting from digital transformation.	The study did not conduct any statistical evaluation of capital- labour ratio targeting bank employees but rather the assessment was based on customer's perspective.
Camison and Lopez (2018)	Banker's perception of digital transformation	The research showed that the most important benefit and risk are the digital transformation and that consumer access to data is minimized, while the least major advantage and risk connected with digital transformation are the decreases in human resources control.	The study ignored aspects of capital labour ratio in relation to improved firm performance, if any, due to digital transformation implementation.
Barney (2019)	Effect of digital transformation on organizational development	The main findings of the research were: digital transformation has a positive effect on organizational development.	However, the study was confined to Nigeria's commercial nerve core and centered on only one bank, therefore restricting the generality of findings.

Blanchard (2017)	Digital transformation on capital labour effectiveness	The results indicated that the employment of digital transformation has increased the effectiveness of the organization. Further human capital and investment in digital transformation have a positive significant impact on labor productivity. However, they are less effective than other variables.	The data used in empirical studies show some limitations. Besides, primary data was not collected hence there was great diversity conceptually, both on analysis and reporting levels. The study also failed to investigate the effect of digital transformation on capital labour ratio of commercial banks more so in the developing economies like Kenya.
Aduda and Kingoo (2018)	Relationship between digital transformation and capital labour performance	The results of the study suggest that perceived ease of use; the most important facts impacting capital labor are attitude, intention and communication. The findings show the perceived danger, security of systems, the function of organization and the availability of digital resources.	The study only tested the mediating and moderating influence of the variables while the direct effect was not analyzed.
Gakure and Ngumi (2018)	bank innovations influence capital turnover of commercial banks	The study revealed that bank innovation influences the bank capital ratio statistically significantly. This makes for a statistically significant cumulative effect on staff turnover of commercial banking companies in Kenya from bank innovation in this research. Empirical research	The study lacked in depth understanding of digital transformation, what its antecedents are, and how it affects capital labor ratio of firms.

		investigations were based on strategic management views and linear economic data analysis. The results are available in German.	

Source; Researchers (2020)

2.5 Hypothesis of the Study

The following alternate hypothesis guided the study;

H_1: Digital transformation significantly influence capital-labour ratio in the commercial banking sector in Nairobi, Kenya

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, we cover the design of the investigation, the scope of study, population, sampling design, data collecting procedures and data analysis.

3.2 Research Design

Descriptive cross-sectional survey design was used in this study. Descriptive design of the study is used to explain current occurrences and enables in-depth data collecting. The cross-sectional survey enables data gathering at one time (Kothari, 2010). For this study, the descriptive cross-sectional study sought to collect data on the circumstances as it made it possible to quickly collect huge volumes of data within a short time.

3.3 Target Population

The target population comprised all the 42 commercial banks in Nairobi.

3.4 Data Collection

The study used primary data and secondary data. Primary data was collected from managers opinions while secondary data was collected from financial reports focusing on digital transformation while payroll were evaluated to assess the labor costs. Those interviewed were managers, ICT managers and financial management staff. Primary data was gathered via questionnaires for the five-point.

3.4.1 Pilot Study

Pilot study was conducted with 10% of the research sample. The pilot study sought to assess any inconsistencies before the main data gathering was carried. This was necessary in rectifying the identified issues (Bolarinwa, 2015). The researchers attempted to identify the relevance and suitability of the items in the questionnaires by way of a pilot study. The pilot research was carried out at 4 randomly selected banks. One week before the real data collection, the pilot research was done. The researcher made a separate debriefing with chosen

respondents following completion of surveys, to gather comments on the questionnaire. A research scientist evaluated the capacity of a respondent to answer items in surveys and give the needed response/data for this study through debriefing. In order to clarify issues and to remove any ambiguities in the questionnaires the researcher used observations from the pilot study.

3.4.2 Validity of the Research Instrument

Validity is the capacity of a test or instruments for measurement (Bolarinwa, 2015). By exposing the questionnaire to the expert evaluation, the content and the face validity of the questionnaire will be verified. In ensuring face validity, the research supervisor will analyze the questionnaire to determine if the questionnaire incorporates all variables as defined in the conceptual framework. To assess whether or not the questionnaire addressed sustainability principles for community leaders' disaster risk reduction plans, a disaster response expert reviewed the questionnaire in order to find clarity and correctness.

3.4.3 Reliability of the Research Instruments

Reliability is an instrument's capacity to deliver consistent results (Bolarinwa, 2015). The internal consistency of items, thus the reliability of the questionnaire, will be assessed using a split-half reliability test. In a partial approach, the investigator splits the items in the questionnaire into two halves, utilizing unusual and even items, and in a pilot study, administers the two distinct formulas to respondents. The goal of this test was to attain an alpha factor of 0.70 or above in Cronbach indicating the reliability of the questionnaire.

3.5 Operationalization of Variables

Table 3.2 Operationalization of Variables

Variable	Indicators	Measurement Scale	Data Analysis Techniques	Results
Digital Transformation (Independent Variable)	• Number and type of banking processes that are digitalized • Process quality improvement or productivity levels of digitalized banking processes	Ordinal	Frequencies, Proportion, Mean, Standard Deviation	• Descriptive statistics
Capital- Labour Ratio (Dependent Variable)	• Amount of capital investment in digitalization of banking processes • Amount of investment in labour or payroll cost upon digitalization	Ordinal	Frequencies, proportion, mean, Standard Deviation Regression	• Descriptive statistics • Inferential statistics

The researcher has noted that the second independent variable of process quality improvement or productivity levels indicated in Table 3.2 can be conceived to be an outcome of digitalization. However, in this study the independent variable has been used to determine the quality of digitalization adopted by banks.

3.6 Data Analysis

Data was coded and entered in a computer and verified with the use of a Microsoft Excel software to ensure correctness and completeness. For data analysis, the Social Science

Statistical Package, PLCS-software version 23, was used. The respondent's profiles were summarized as well as the generated collected objectives data analyzed using descriptive statistics which include frequencies, means, standard deviations and percentages. The results were presented through tables and graphs. The effects of digital transformation and the responses to each survey topic were described in descriptive statistics (frequencies, mean and percentages). The evaluated data was then presented through tables, graphs and discussion of the results. The effect of digital transformation on capital-work ratio was tested by means of a regression analysis. Below is the regression model.

$$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon \ldots\ldots\ldots\ldots\ldots$$

Where: Y = Dependent variable (Capital- labour ratio), X = Independent variables (Digital transformation), β_0 = Constant term, β_1 and β_2, = Beta coefficients, X_1= Number and type of banking processes that are digitalized, X_2 = Process quality improvement or productivity levels of digitalized banking processes and e = Error term. Pearson's correlation analysis was used to test the strength and direction of the linear relationship between total cost of digitalization and aggregate payroll costs.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The content of this chapter comprises analysis of the data and presentation of the findings which are described and interpreted.

4.2 Response Rate

Response statics are presented in table 4.1.

Table 4.1 Response Rate

	Frequency	Percent
Respondents who participated in the study	37	88.1
Respondents who did not participate in the study	5	11.9
Total	**42**	**100**

Source: Field Data, (2021)

Of the 42 research questionnaires that are distributed only five (5) were not returned. This resulted in an 88.1% response rate. The response rate was high due to the constant reminders that were made via phone calls to all respondents requesting them to answer all the questions.

4.3 Profile of the Banks and Respondents

The study gathered information on the number of years worked in the banks, number of years the banks had been in operation, the banks' asset base, number of employees and position of the respondents in the banks as presented below.

4.3.1 Number of Years Worked in the Bank

The respondents were asked to state the number of years they had worked in the banks. This was important for gauging their experience with digital transformation (Popereshnyak, & Grinenko, 2019). Table 4.2 shows the findings.

Table 4.2 Number of Years Worked in the Bank

Period	Frequency	Percent
Below 3 years	8	21.6
3-6 years	13	35.1
7-9 years	9	24.3
10 years and above	7	18.9
Total	**37**	**100**

Source: Field Data, (2021)

Majority of the respondents at 35%, had worked in the banks for 3 to 6 years, 24% had worked between 7 and 9 years, 21% had worked for a period below 3 years and 18% had worked in the banks for over 10 years.

4.3.2 Number of Years the Banks had been in Operation

Table 4.3 shows that 37% of the banks had been in operation for a period of 11 to 15 years, 27% had been in operation for a period of 6 to 10 years, 24% had been in operation for a period of over 15 years and 10% of the banks had been in operation for a period between 1 and 5 years.

Table 4.3 Number of Years the Banks had been in Operation

Period	Frequency	Percent
1-5 years	4	10.8
6-10 years	10	27.0
11-15 years	14	37.8
Over 15 years	9	24.3
Total	**37**	**100**

Source: Field Data, (2021)

4.3.3 Bank Asset Base

As per Table 4.4, all the banks that responded to the questionnaire were commercial banks.

Table 4.4 Bank Asset Base

	Frequency	Percent
Commercial banks	37	100
Community development banks	-	-
Investment banks	-	-
Credit unions	-	-
Savings and loan associations	-	-
Total	**37**	**100**

Source: Field Data, (2021)

4.3.4 Number of Employees

Most of the banks (51%) as presented in table 4.5 had less than 100 employees, 29% had 100 to 200 employees while 18% had more than 200 employees.

Table 4.5 Number of Employees in the Banks

	Frequency	Percent
Less than 100 employees	19	51.3
100 to 200 employees	11	29.7
More than 200 employees	7	18.9
Total	**37**	**100**

Source: Field Data, (2021)

4.3.5 Employees Designation in the Banks

According to Table 4.6, 54% of the respondents were financial management staff, 27% were ICT managers and 18% were other managers in the banks.

Table 4.6 Employees Designation in the Banks

	Frequency	Percent
Managers	7	18.9
ICT managers	10	27.0
Financial Management Staff	20	54.0
Total	**37**	**100**

Source: Field Data, (2021)

4.3.6 Digitalization of the Banks

All the banks (100%) were digitalized as per Table 4.7.

Table 4.7 Digitalization of the Banks

	Frequency	Percent
Digitalized	37	100
Not digitalized	-	-
Total	**37**	**100**

Source: Field Data, (2021)

4.4 Number and Type of Digitalized Banking Processes

Table 4.8 indicates the means and standard deviations of the extent of digitalization of various banking processes among the commercial banks in Nairobi, Kenya. The process with the highest digitalization is account opening/ closing process (Mean=4.13 out of 5.0), followed by anti-money laundering (AML) (Mean=4.05, standard deviation = 1.093). The least digitalized process is general ledger (mean 3.63, standard deviation = 1.045) followed by bank reconciliation (mean = 3.70, standard deviation = 0.541). The overall digitalization of the banking processes is almost 90% (mean 3.91, standard deviation 0.92).

Table 4.8 Number and Type of Digitalized Banking Processes

	Mean	Std. Deviation
Loan processing	4.02	1.904
Account opening/ closure process	4.13	.456
Know Your Customer (KYC)	3.71	.389
Anti-Money Laundering (AML)	4.05	1.093
Accounts payables	3.99	.295
Credit card application process	3.89	.301
Fraud detection	4.01	1.305
General ledger	3.63	1.045
Mortgage processing	4.00	1.893
Bank reconciliation	3.70	.541
Total	**39.13**	**9.222**
Average	**3.91**	**0.9222**

Source: Field Data, (2021)

4.5 Process Quality Improvement or Productivity Levels of the Digitalized Banking Processes

Based on the findings in Table 4.9, the overall productivity levels of digitalized banking processes were found to be high as shown by a mean score of 4.00 and standard deviation of 0.664. Productivity levels in the banks improved customer insights (Mean=4.12 and standard deviation 0.457), customer centricity (mean=4.09), optimizing the workflow (mean=4.03), omni channel-enabling operations (mean=3.91) and real time customer interactions (mean=3.88) to a great extent.

Table 4.9 Process Quality Improvement or Productivity Levels of Digitalized Banking Processes

	Mean	Std. Deviation
Optimize the workflow	4.03	.651
Customer centricity	4.09	1.320
Capturing customer insights	4.12	.457
Omni channel-enabling operations	3.91	.324
Real time customer interactions	3.88	.572
Total	**20.03**	**3.324**
Average	**4.00**	**0.664**

Source: Field Data, (2021)

4.6 Aggregated Cost of Digitalization and Payroll (2001-2021)

The aggregated costs of digitalization and payroll for all the banks for the period 2001 to 2021 is presented in table 4.10

Table 4.10: Aggregated Cost of Digitalization and Payroll (2001-2021)

Year	Aggregate digitalization costs in KSh ('00')	Aggregate payroll costs in KSh ('00')	Capital - labour ratio
2001	17,511,165	52,177,533	0.3356074
2002	22,366,587	50,716,834	0.4410091
2003	28,371,897	49,023,701	0.5787384
2004	34,559,036	40,274,961	0.8580775
2005	34,907,741	36,743,843	0.9500297

2006	35,003,917	34,864,100	1.0040103
2007	44,134,788	33,207,884	1.3290455
2008	44,524,345	27,508,762	1.6185514
2009	48,050,207	26,337,775	1.8243837
2010	49,872,003	25,605,167	1.9477320
2011	57,000,874	22,612,370	2.5207828
2012	58,202,890	18,837,114	3.0897987
2013	61,945,987	11,634,961	5.3241250
2014	65,324,147	8,539,178	7.6499339
2015	74,024,084	6,005,485	12.3260792
2016	78,224,369	5,698,117	13.7281086
2017	82,657,159	5,422,998	15.2419675
2018	84,258,741	4,307,885	19.5591900
2019	85,894,127	3,202,111	26.8242191
2020	88,357,154	1,579,947	55.9241253
2021	86,967,497	937,520	92.7633512
Total	**1,182,158,715**	**465,238,246**	**2.5409749**
Average	**56,293,272**	**22,154,202**	**2.5409749**

Table 4.10 indicates that the mean of the aggregate cost of digitalization in the banks is KSh 5,629,327,200 and the mean of the aggregate payroll costs is KSh 2,215,420,200. The findings further indicate that as the cost of digitalization increases, the payroll costs decrease. This shows that the cost of labour in the banks is affected by the changes in digital transformation. Further, the findings show that there was a sharp increase in digitalization between the year 2014 and 2015 this can be confirmed by the decrease in profits in the banks during this period. Moreover, the findings show there was sharp decrease of payroll costs between 2012 and 2013 which may be attributed to high job loss in the sector as a result of banks adopting digital technology during this period. Therefore, the mean of aggregate capital labour ratio for banks is 2.5409749 which is the dependent variable figure that will be regressed with the independent variables in order to establish the extent of relationship.

4.7 Regression Analysis on the Effect of Digital Transformation on the Capital Labour Ratio

To determine the effects of digitalization on the capital labour ratio in the banks, the regression model presented was used;

$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$ …….

Where: Y is (Capital-labour ratio), X is the independent variables (Digital transformation), β_0 is the constant term, β_1 and β_2, represents the Beta coefficients, X_1 is the number and type of banking processes that are digitalized, X_2 is the process quality improvement or productivity levels of digitalized banking processes and e is the error term.

Table 4.11: Model Summary

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate
1	0.889[a]	0.790	0.753	0.896

Dependent Variable: Capital- labour ratio

Predictors: (Constant), number and type of banking processes that are digitalized and process quality improvement or productivity levels of digitalized banking processes

Table 4.11 summarizes the strength of relationship of the independent variables to the capital-labour ratio. In accordance with these findings, there is evidence of existence of a strong inverse relationship between the independent variables and the capital labour ratio which is clearly portrayed by the R^2 of 0.79 and the adjusted value of 0.753. This simply connotes that the number and type of banking processes that are digitalized and process quality improvement or productivity levels of digitalized banking processes accounts for 75.3% of the variations in the capital- labour ratio.

Table 4.12: ANOVA of the Regression

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	38.92	2	19.460	21.015	0.00000
Residual	31.484	34	0.926		
Total	**70.404**	**36**	**19.460**		

Dependent Variable: Capital- labour ratio

Predictors: (Constant), number and type of banking processes that are digitalized and process quality improvement or productivity levels of digitalized banking processes

From the model summary on Table 4.12, it can be deduced that the relationship that exists between the independent variables (number and type of banking processes that are digitalized and process quality improvement or productivity levels of digitalized banking processes) and the dependent variable (capital-labour ratio) is statistically significant. The F test indicates whether the model of regression is statistically significant. The findings in Table 4,12 above portray the p-value to be 0.00000 which implies that the whole model is significant. A model is considered to be significant if its p-value is less than the significance level. In this study p-value of 0.0000 was less than the significance level which was at 5%

Table 4.13: Coefficient of Correlation

	Un-standardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.936	0.765		5.145	0.000
Number and type of banking processes that are digitalized	0.741	0.236	0.646	3.140	0.003

Process quality improvement or productivity levels of digitalized banking processes	0.667	0.215	0.526	3.102	0.003

a. Dependent Variable: Capital- labour ratio

Capital- labour ratio= 3.936 + 0.741*Number and type of banking processes that are digitalized + 0.667*Process quality improvement or productivity levels of digitalized banking processes

From the findings in Table 4.13, the study found that holding the independent variables (number and type of banking processes that are digitalized and process quality improvement or productivity levels of digitalized banking processes) at zero, the dependent variable (capital-labour ratio) will be 3.936. It was established that a unit increase in number and type of banking processes that are digitalized, while holding other factors (process quality improvement or productivity levels of digitalized banking processes) constant, will lead to an increase in capital- labour ratio by 0.741 ($p = 0.003$). Further, unit increase in process quality improvement or productivity levels of digitalized banking processes, while holding other factors (number and type of banking processes that are digitalized and process quality improvement or productivity levels of digitalized banking processes) constant, will lead to an increase capital-labour ratio by 0.667 ($p = 0.003$).

At 5% level of significance and 95% level of confidence, number and type of banking processes that are digitalized and process quality improvement or productivity levels of digitalized banking processes are significant in capital- labour ratio.

4.8 Discussion of the Findings

The study found that the banks adopted digitalization to a great extent in banking processes which include account opening/closure process, anti-money laundering (AML), loan processing, fraud detection, mortgage processing, accounts payables, credit card application process, know your customer (KYC), bank reconciliation and general ledger. The study was supported by Lucas (2016) who conducted a study on the effect of digital transformation on capital-labour ratio which was a case study in Maryl commercial banks in Sweden. Research

findings have shown that employees had moderate assessments of outcomes of leadership and management-related organizational development activities as a result of digital transformation. The following factors, economic efficiency, data security, efficient workflows and employee happiness were shown to have a statistically important positive connection at a level of 4 percent. However, he did not conduct any statistical evaluation of capital- labour ratio targeting bank employees but rather the assessment was based on customer's perspective.

The study also found that digitalization of banking processes resulted in process improvements or enhanced productivity levels in capturing customer insights, customer centricity, optimizing the workflow, omni channel-enabling operations and real time customer interactions. The study was in line with Camison and Lopez (2018) who studied the perceptions of bankers in the use of digital transformation and its consequences in providing services to banks in Japan. The study however ignored aspects of capital labour ratio in relation to improved performance of banks, if any, due to digital transformation implementation. Barney (2019) also evaluated the effect of digital transformation on organizational development in Nigerian banks. The study found that cashless transactions were made possible and this had a significant influence on capital labour ratio.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The section highlights the summary of the study, the conclusions drawn and the study recommendations. The limitation and suggestions for further studies are also highlighted in the section.

5.2 Summary of the Findings

The study found that the banks adopted digitalization in banking processes which include account opening/closure, anti-money laundering (AML), loan processing, fraud detection, mortgage processing, accounts payables, credit card application, know your customer (KYC), bank reconciliation and general ledger to a great extent.

The study also found that digitalization of the banking processes resulted to a great extent in improvements in process quality or productivity levels in capturing customer insights, customer centricity, optimizing the workflow, omni channel-enabling operations and real time customer interactions.

5.3 Conclusions

Firstly, the study concluded that adoption of digitalization inversely influenced the capital-labour ratio of commercial banks in Kenya. There was evidence that the introduction of digital banking technology in the banks improved customer deposits to a great extent while withdrawal levels and value of loan also increased. Furthermore, the study found that digital banking technology has improved service delivery and has reduced the cost of labour and therefore it can be hypothesized that there is a relationship between adoption of digitalization and capital-labour ratio in commercial banks in Nairobi, Kenya.

The study concludes that adoption of digital banking technology has contributed inversely to the capital-labour ratio of commercial banks in Nairobi, Kenya. This is evidenced by the trends recorded in the variables where access to digital platforms by users, reduction in operating cost

and improvements in turnaround time had an inverse and significant contribution to capital-labour ratio of commercial banks in Nairobi, Kenya.

5.4 Recommendations

The study recommends that financial institutions should offer low transaction charges for customers using their digital platforms and provide secure digital environment that guarantee security of customers deposits and information at all times. This will attract more customers to take up digital banking services thus ensuring the future sustainability of the banking business. Furthermore, the use of digital banking technology may be a strategic and cheaper option for banks to render banking services to people living in the remote parts of Kenya that are still unbanked.

The study recommends that banks should consider intensifying the M-Banking network which will ensure accessibility of banking services by customers and thus improving financial inclusion in the country. Finally, the study recommends that commercial banks in Nairobi, Kenya should ensure that systems failures and down-times are kept at the bare minimum in order to enhance service delivery and thus reduce the operating costs of commercial banks in Nairobi, Kenya.

5.5 Recommendation for Further Research

This study sought to determine the effect of digital transformation on capital-labour ratio in the commercial banking sector in Nairobi, Kenya. The study suggests that further research should be conducted on the effects of digital technology on the financial performance of commercial and micro finance banks in Kenya.

The study recommends a detailed study on the challenges faced by commercial banks in adopting digital banking technology due to macroeconomic factors such, interest rates, legal frameworks, societal and cultural issues. The study found that digital banking has increased immensely in the recent past and therefore recommends that a study be done on the impact of digital banking on the overall economy.

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Appendix I: Introduction Letter

Dear Respondent,

This questionnaire is designed to gather information on "THE EFFECT OF DIGITAL TRANSFORMATION ON CAPITAL-LABOUR RATIO IN THE COMMERCIAL BANKING SECTOR IN NAIROBI, KENYA. The study will be partly carried out at the Business School and the University of Nairobi.

The information is kept confidentially and your identity is not disclosed in this research. No other purpose than this academic exercise will be utilized for this information.

Your support will be immensely appreciated in facilitating it.

Thank you in advance

Yours sincerely

……

Lydia Gathuge

Appendix II: Questionnaire

Instructions:

a) Give brief answers in the spaces provided.

b) In the boxes given, please tick appropriately.

SECTION A: General Background

1. Name of the Bank (Optional) _____
2. Please indicate the number of years worked in this Bank

   Below 3 years [ ] 3-6 years [ ]

   7-9 years [ ] 10 years and above [ ]

3. Number of years the Bank has been in operation …….

4. Bank asset base……...
5. Number of employees in this Bank ……..

6. What is your position in the Bank? …….

7. Is the Bank digitalized

   Yes [ ] No [ ]

   a) If yes which year ……

   b) If not why ……....
   ……
   ……
   …….

SECTION B: Number and type of banking processes that are digitalized

8. To what extent has the bank ensured digitalization of the banking processes in the given main areas? Using the scale provided: 1=No extent, 2= Low extent, 3= Moderate, 4=Great extent and 5= Very great extent.

	1	**2**	**3**	**4**	**5**
Loan processing					
Account opening/ closure process					
Know Your Customer (KYC)					
Anti-Money Laundering (AML)					
Accounts payables					
Credit card application process					
Fraud detection					
General ledger					
Mortgage processing					
Bank reconciliation					

SECTION C: Process quality improvement or productivity levels of digitalized banking processes

9. To what extent has digitalization of the bank processes ensured the following; Using the scale provided: 1=Strongly Disagree, 2= Disagree, 3= Undecided, 4=Agree and 5= Strongly Agree.

	1	2	3	4	5
Optimize the workflow					
Customer centricity					
Capturing customer insights					
Omni channel-enabling operations					
Real time customer interactions					

Section D: Capital- Labour Ratio

Year	**Total cost of digitalization (KSh)**	**Aggregate payroll costs (KSh)**
2001		
2002		
2003		
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012		
2013		
2014		
2015		
2016		
2017		
2018		
2019		
2020		

Appendix III: List of Commercial Banks in Kenya

1. Absa Bank Kenya PLC	16. Ecobank Kenya Limited	31. Middle East
2. African Banking Corporation ltd	17. Equatorial Commercial Bank Ltd	32. National Bank of Kenya
3. Bank of Africa k Ltd	18. Equity Bank Limited	33. National Industrial Credit Bank Ltd
4. Bank of Baroda Kenya	19. Family Finance Bank	34. Oriental Commercial Bank Ltd
5. Bank of India Ltd	20. Fidelity Commercial Bank Ltd	35. Paramount Universal Bank Ltd
6. Chase bank Kenya Ltd	21. First Community Bank	36. Prime Bank Ltd
7. Citibank N.A.	22. Giro Commercial Bank	37. South Credit Banking corporation
8. City Finance Bank Ltd	23. Guaranty Trust Bank Ltd	38. Stanbic Bank Kenya Ltd
9. Commercial Bank of Africa Ltd	24. Guardian Bank Ltd	39. Standard Chartered Bank of Kenya
10. Consolidated Bank	25. Habib Bank A.G Zurich	40. Trans-National Bank
11. Co-operative Bank of Kenya	26. Habib Bank Ltd	41. United Bank of Africa
12. Credit Bank Ltd	27. Imperial Bank Kenya Ltd	42. Victoria Commercial Bank Ltd
13. Credit Finance Bank Ltd	28. Jamii Bora Bank	
14. Development Bank of Kenya	29. Kenya Commercial Bank Ltd	

15. Diamond Trust Bank	30. K-Rep Bank ltd

Source: Central Bank of Kenya (2018)

Appendix IV: Research Approval Letter

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Nairobi, KENYA

26 October 2021

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

INTRODUCTORY LETTER FOR RESEARCH
LYDIA GATHUGE – REGISTRATION NO.D61/P7522/1999

This is to confirm that the above named is a bona fide student in the Master of Business Administration (MBA) option degree program in this University. She is conducting research on ***"The Effect of Digital Transformation on Capital-Labour Ration in the Commercial Banking Sector, Nairobi, Kenya".***

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the research project. The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence**.

Your co-operation will be highly appreciated.

Thank you.

UNIVERSITY OF NAIROBI
DEAN'S OFFICE
26 OCT 2021
P.O. Box 30197-00100, NAIROBI

Jane Muturi
For: MBA Co-Ordinator,
School of Business

GW/jkm