FACTORS INFLUENCING THE USE OF ELECTRONIC PAYMENT SYSTEM AMONG THE BANK CUSTOMERS: THE CASE OF NMB BANK.

BY

ROSE SHAABAN

A Dissertation Submitted in Partial/Fulfillment of the Requirements for Award of the Degree of Master of Business Administration in Corporate Management (MBA- CM) of Mzumbe University.

December, 2020
CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance a dissertation entitled: *Factors influencing the use of electronic payment system among the bank customers: a case study of NMB bank* in partial fulfillment of the Requirement for Award of the Degree of Masters of Business Administration in Corporate Management of Mzumbe University.

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DEDICATION

With utmost pleasure, I dedicate this dissertation to my lovely husband Mr. Edward P. Mapunda for his financial support (as my sponsor), encouragement, understanding, and support during my academic life. Also to my lovely children Brighton and Brightness who missed my love and care during the period I was pursuing a Master's degree.
**ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ATM</td>
<td>Automated Tellers Machines</td>
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<tr>
<td>COVID-19</td>
<td>Corona Virus Diseases of 2019</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>NMB</td>
<td>National Microfinance Bank</td>
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<tr>
<td>POS</td>
<td>Point of sales</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for Social Science</td>
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<tr>
<td>SWIFT</td>
<td>Society for Worldwide Interbank Financial Telecommunication</td>
</tr>
<tr>
<td>TISS</td>
<td>Tanzania Inter-bank Settlement System</td>
</tr>
<tr>
<td>TZS</td>
<td>Tanzanian Shillings</td>
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<tr>
<td>URT</td>
<td>United Republic of Tanzania</td>
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ABSTRACT

The use of electronic payment has marked an impressive growth worldwide with the view to simplify and ease business transaction payments. Development in ICT is attributed to this growth. The general objective of this study is to examine the factors that influence the use of electronic payment systems among bank customers using NMB bank as a case study. A cross-sectional mixed research design that includes both qualitative and quantitative data collection and analysis techniques were employed. The study was conducted in the Dar es Salaam region and a total of 250 bank customers were sampled conveniently. The study used a structured questionnaire to collect the responses from the sampled customers. A total of 6 NMB bank branches in Dar es Salaam were surveyed. The study employed a simple multiple regression technique to analyze the factors that influence the use of the electronic payment system among banking industry customers. The dependent variable for this study was the use of electronic payment system. The independent variables include; security-related matters and the ICT know-how. The control variables include education, age, and experience. The study used SPSS version 20 for the analysis. The findings revealed that ICT know-how has a positive significant effect on the use of e-payment systems among bank customers. Furthermore, security-related matters were observed to have a negative significant effect on the use of the e-payment system among bank customers. Furthermore, findings revealed that to improve the use of e-payment system banks need to provide education to the public on the use of e-payment systems, promote internet banking, and improve TISS and POS systems. Therefore, the study recommends that among other things banks need to improve their e-payment security system to reduce the possible security challenges to the customers. Also, the bank should improve the ICT technology that enhances the e-payment services, need to improve the TISS and POS systems, and need to educate more the public on the use of e-payment systems.
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CHAPTER ONE

INTRODUCTION

This chapter explained on the background of the study, statement of the study problem, Objectives of the study, Research questions and Significance of the Study, Scope of the study and Organization of the research.

1.1 Background to the Study

The adoption of e-payment system goes back from the history of technological revolution in e-commerce system. During the 19th century there was high development of e-commerce that went together with e-payment system. Through e-commerce development various electronic means of doing business and payment system including adoption of e-payment system.

The electronic payment (e-payment) system has been growing rapidly worldwide intending to simplify and ease payments in business transactions (Kabir et al., 2015). Among other things, Information and Communication Technology (ICT) and digital technologies have propelled a great revolution in economics, finance, and operational costs (Slozko and Pello, 2015). Tsiakis and Stephanides (2005) postulated that e-payment has become important in the development and successful implementation of e-commerce. This system has brought different modes of payments to its esteemed clients such as debit cards, online banking, credit cards, and mobile banking (Tater et al., 2013).

Furthermore, the e-payment system has brought many paybacks to both individual customers and institutions as well. Inter alia, the e-payment system has eased the customer payment process and made it more efficient, as well as the business and bank settlement processes (Mbwayo, 2017). Also, efficiency, fraud decrease, and innovativeness in the world payment system are as well linked to the e-payment system (Oladeji, 2014).
The electronic payment system is evidenced in both developed and developing countries enhancing the development of different sectors such as banking and business sectors. Nevertheless, E-payment has been pointed out to be an emerging issue in developing countries including Tanzania (Kabir et al., 2015), hence the need for studying the sector extensively.

The trend of adoption of e-payment system has been increasing from one industry to often another industry. In service delivery there has been a move toward adoption of e-payment system worldwide with the base of promoting efficiency service delivery as well as reducing human challenges. The e-payment system has been important in manufacturing industry, banking industry as well as insurance industry. With the increasing trend of using e-payment system there are a need to consider what determine the use of e-payment system in banking industry.

The banking industry has been one of important industry to which adoption of e-payment system has been very important. In Tanzania the banking industry has been promoting the customer to use e-payment system. National Microfinance Bank (NMB) bank that is a Tanzanian based bank has also introduced electronic payments systems to its esteemed customers that include credit cards, internet banking, and mobile banking that simplified the payment process. Other e-payment systems provided by the bank include Society for Worldwide Interbank Financial Telecommunication (SWIFT), Tanzania Inter-bank Settlement System (TISS), Sybrin and Flexcube. However, despite advantages linked with the e-payment system, adequate ICT know-how among users and fear of security breach remain a great charge among users (Kabir et al., 2015). Therefore, the focus of this study is to analyze the factors influencing the use of electronic payment systems among customers in commercial banks using NMB bank as a case study.

1.2 Statement of the Problem

Electronic banking enriches banking sector development and it is viewed as a strategic weapon for banks. Although it offers various benefits for both banks and customers (Al-Smadi 2012). Over the past years, Electronic banking has increased
wide acknowledgment and because of its advantages as far as financial transaction activities are concerned, prompted Banks in Tanzania to adopt the technology quickly in the early 2000s, drove specifically by international banks and private banks.

The increasing number of banks since then raised consciousness amongst banks on the role and usefulness of technology in banking activities, gave the way for fast adaptation concerning the threat of competition in an attempt to retain their customer base (Mbwayo, 2017).

Development in mobile phone telecommunications in Tanzania and the emergence of mobile phone financial activities has been a complement to electronic banking system growth however, despite that banks are yet to fully adopt E-banking making a lot of transactions still being implemented using traditional methods (Mkoka, 2014).

Despite development of technology has created a vacuum for need of adopting electronic payment system in banking industry; there is a problem related with knowing what are important factors that determine adoption of electronic banking payment system. The study conducted by Johnson (2018) showed that proper and effective adoption of electronic transaction requires accurate determination of determinants of adoption of electronic payment system. It is not all industry that have adopted electronic payment system have done proper and outstanding performance.

Therefore; the first step is determining determinant of adoption of electronic transaction system in banking industry remain important. Hamis (2019) conducted a study in banking industry to assess customer perception of electronic banking system and revealed that majority of them do not know what influence them to adopt electronic banking system. Therefore; to address the problem this study was conducted analyzing the factors that influence the use of the electronic payment system among bank customers.
1.3 Study Objectives

1.3.1 General Objective
The general objective of the current study is to analyze the factors that influence the use of an Electronic payment system among the bank customers.

1.3.2 Specific Objectives
Specifically, the study focused on addressing the following objectives;

i. To examine the effect of security-related matters on the use of e-payment systems in the banking industry.

ii. To examine the effect of ICT know-how on the use of electronic payment systems in the banking industry.

iii. To establish ways to improve the use of e-payment systems in the banking industry.

1.4 Research Questions
The study focused on addressing the following research questions;

i. What is the effect of security-related matters on the use of the e-payment system in the banking industry?

ii. What is the impact of ICT know-how on the use of e-payment systems in the banking industry?

iii. What are the ways to improve the use of electronic payment systems in the banking industry?

1.5 Significance of the Study
The study will add to the existing literature about the key drivers for adopting the use of electronic payment systems among the bank customers, and evidence-based ways of improving the use of electronic payment systems. Therefore, this study will be essential for students, academicians, and researchers as it will provide them with more understanding of the subject matter. Also, the study will be useful in informing the financial institutions specifically banks and the general public on examining the factors that influence the use of the electronic payment system among its customers.
Theoretical significance, Unified theory of acceptance and usage of technology theory to this study it provide a securely unified factor which are relevant to adoption of electronic payment system, and in this case a unified sectors that contribute toward adoption of electronic payment system is security matters as well as ICT know how which are the basis for technical knowhow whereby Innovation Diffusion theory to study it provide the case of adoption a need for technological innovation is very important because it provide the basic for innovation and technical know- how as a means towards adoption of using e payment system which is useful for the current study.

1.6 Scope of the Study
The study used NMB bank as a case study. It employed a mixed approach cross-sectional research design including both quantitative and qualitative methods whereby it used primary data collected from NMB bank customers. The study was conducted in Dar es Salaam city, involving six NMB bank branches to offer a required representation.

1.7 Organization of the Study
The dissertation has been structured into six chapters; chapter one cover introduction which unveils background of the study, statement of the problem, research objectives, research questions, scope of the study, significance of the study and scope of the study. In chapter two highlights on the literature review that reveals definition of key terms, theoretical review, empirical review, research gap and conceptual framework. In chapter three, explains on the research methodology that comprise of the type of the study, area of the study, population of the study, sample size and sampling techniques, types and source of data, validity issues and data analysis methods. Chapter four of the study highlights the findings that were collected by researcher. Chapter five of the study unveils the discussion of findings that related to the research objectives. Chapter six revealed the conclusion and recommendations of the study.
CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction
Chapter two presents both theoretical and empirical literature reviews used in the study. Section 2.1 covers the meanings of the key terms for this study while Section 2.2 presents the theoretical literature used in the study. Section 2.3 explores the empirical literature and Section 2.4 establishes the research gap of the study. Section 2.5 provides the conceptual framework and 2.6 Chapter Conclusion

2.1 Meaning of Key Terms

2.1.1. Security Related Matters
The concept of security related matter is defined by Urs (2015) to mean all virus, worms, Trojan horses that acts as common security threats that come with using e payment systems as they lead to unauthorized access, theft, and fraud. In this study security related matter refers all things that create threats for adoption of electronic payment system in banking industry.

2.1.2. ICT Know-How
The concept of ICT know how has been defined by Agbonifo et al, (2012) to mean a set of actions that enhance production, processing, distribution, transmission, and display of information by electronic means. It is the ability of knowing and using ICT in day to day activities of an organization or individuals. This definition implies the capability and applicability to apply information communication technologies in making banking transaction. According to Kato, (2019) despite technology is changing time to time by adoption of technology in developing country has not gone with the pace of technological development in the world that need more reactions to use ICT in banking transactions.
2.1.3. E-payment System
The concept of electronic payment system some time is referred as e-payment system and it has been defined by Parker and Swatman, (2002) to mean a computerized system that permits payments between parties to occur online or electronically relatively than using customary payment systems such as cash or cheques. When buying and selling goods and services the mode that use electronic system in making payment or transaction of goods and services is what regarded as e-payment system. This imply that information and communication technology development has developed a system that allows transaction in banking or other industry to make payment through electronic system Thus to financial services providers, the deployment of advanced technologies in the market is essential to achieve competitive advantage (Hassan et al, 2019).

2.1.4. Usage of Payment System
The concept of usage of payment system has been defined different by different scholars but Msamila (2014) considered as the ability consumers and sellers adopt system of payment that they consider it is most effectively and reliable. The consumers and sellers tend to accept use modes of payments that ensure effectiveness and time-saving in transactions among users. The study highlight that many banks have adopted and use electronic banking delivery networks such as; ATMs, electronic funds transfers, and internet banking. Despite, cyber environment comprising people, technology and application produces a refined atmosphere for cyber threats to prosper in electronic banking.

2.2 Theoretical Literature
This section discusses relevant theories that provide deep insight into the use of electronic payment systems in different scenarios. These theories include; Unified theory of acceptance and usage of technology as well as innovationdiffusion theory.
2.2.1 Unified Theory of Acceptance and Usage of Technology
This theory was established by Venkatesh et al., (2003) to give details about the use and technology acceptance. Venkatesh et al., (2003) stipulate the key four determinants of usage intention and behavior to include performance expectancy, effort expectancy, social influence, and facilitating conditions. The theory explains the purpose users have for accepting information systems and how their behavior changes over time.

This means that individuals are likely to accept and use new technology when their performance and effort expectations are met on the one hand, and on the other hand individuals are affected by the social influence and facilitating conditions. Davis (1989) highlights that end-users professed effectiveness of the technology, as well as the professed ease of use, are the things that determine the level of technology acceptance by the members of the community over a given period. The theory suggests other factors such as age, sex, and experience as factors that reduce the impact of the technology on usage intention, and factor that hinder its adaptation (Venkatesh and Bala, 2008).

The theory suffers critiques of not incorporating the effects of external influence from competitors. Therefore, the theory offers a wide range of applicability as it explains the factors that influence the recognition and use of technology. The relevance of this theory to this study it provide a securely unified factor which are relevant to adoption of electronic payment system, and in this case a unified sectors that contribute toward adoption of electronic payment system is security matters as well as ICT know how which are the basis for technical knowhow.

2.2.2 Innovation Diffusion Theory
This theory was established by Rogers (1962). It postulates how innovation is diffused among individuals in the society over time via various channels. It highlights factors that affect the likelihood of the innovation being approved among individuals in the society. The theory suggests that the adaptation doesn't occur overnight with
some likely to adopt earlier than the rest. Rogers 1995 claims that the distribution of innovation happens in four stages, the first being the invention stage where information flows via various channels. The theory highlights the internet as the component that influences how members of the community adopt new technology. The following stages include early adopters, early majority, late majority, and finally the laggards.

Therefore, the theory provides an essential body of knowledge to the study as it affirms that there is a process in adopting a new technology among individuals in a society. Relevance of this theory to study is that for the case of adoption a need for technological innovation is very important because it provide the basic for innovation and technical know-how as a means towards adoption of using e payment system which is useful for the current study.

2.3 Empirical Literature
Mbwayo (2017) used descriptive research design in explaining factors that influence the adoption of electronic payment systems by commercial banks in Kenya. Findings revealed that among other things regulatory framework, technology, infrastructure, support from the management, and information security positively influence the acceptance of electronic payment technologies. Kabir et al., (2017) analyzed the factors that influence electronic payment adoption in Malaysia. The findings revealed that ease of use, product usefulness, improved security, cost-effectiveness; product awareness and attitude are among the most important factor that influences the adoption of e-payment systems.

Roy and Sinha (2017) employed factor analysis in examining the factors affecting the customer's adoption of electronic payment and clearing system in India. The findings from the study revealed that perceived usefulness, perceived ease of use, and perceived security have a significant effect on the acceptance of electronic payment system. Alalwan (2017) used logit model when examined factors influencing adaptation of e-banking in Jordanian banks, collecting data from 343 participants.
Findings reveal that behavioural intention is significantly and positively influenced by ease of use, improved security and trust.

Barkhordari et al., (2016) employed a cross-sectional research design to analyze factors affecting the adoption of e-payment systems in Iran. Findings revealed that perceived security and trust have a positive impact on using the e-payment system. Dehbini et al., (2015) analyzed factors that influence the use of the electronic payment system. Findings revealed that network externalities, ease of use, usefulness, compulsion, satisfaction, and norms have a significant effect on the adoption of electronic payment.

Bultum (2014) identified factors that affect the use of E-banking in the Ethiopian banking industry. A mixed research approach was applied to answer the objectives. The result of the study indicated that, the major barriers Ethiopian banking industry faces in the use of electronic banking are; are security risk, lack of trust. Awara (2014) studied factors influencing consumer’s acceptance of e-banking of selected commercial banks in Nigeria. Data from 360 were drawn three major bank and were analyzed using ordinary least square. Findings revealed that consumer perceived e-banking in terms of service quality and attributes like time, performance and confidentiality risks.

Balogun (2013) analyzed factors influencing customer’s satisfaction with e-banking in Nigeria. Participants were drawn randomly from different banks departments in Ibadan. Findings revealed that technology, infrastructure, support from the management, and information security positively influence the acceptance of electronic payment technologies.

Tater et al., (2013) in India studied "customer adoption of banking technology in private banks". The study investigated the perception of Indian customers towards the adoption of new banking technology. Findings suggest that demographic characteristics such as age, sex, and income are a decisive factor in the adoption of banking technology. Amin (2013) used partial least squares to examine factors
influencing the use of e-banking among Malaysian bank customers. The study derived data from 257 respondents. The results revealed that attitude, subjective norm and perceived financial cost significantly influence the intention to choose e-banking.

Al-Smadi (2012) employed a multiple regression analysis when investigating factors affecting adaptation of electronic banking in Saudi Arabia. Data was randomly selected from all 26 licensed banks. The study found that, uncertainty has significant and positive effect on perceived usefulness. Customer intention to use e-banking system is largely influenced by the customer’s attitude towards perceived risk.

Kubasu (2010) did a simultaneous equation regression in Kenya when analyzing factors affecting the adaptation of technological innovation by commercial banks in Kenya. With more focus on factors that affect the diffusion and the impact of internet banking. The study concludes that increase average bank assets, as well as imitation of non-adopter from early adopters, are the factors that drive adaptation of internet banking.

2.4 Research Gap
Most studies from the literature review have a focus on e-banking and its adoption, with ease of use being considered as a decisive factor for user satisfaction and their adaptation of the new technology. This raises a concern with a change of time and advancement in the field to further investigate other factors that could influence the subject matter.

Several models have been developed and applied when investigating the role of information technology including e-banking in the world, however, evidence from the pool of existing literature reveals that little has been said about factors that influence the use of electronic payment systems among customers in commercial banks in Tanzania. Milanzi (2014) conducted a study that was centered on customer perception about internet banking activities, covering the Kinondoni district as a case study. The current study did not concentrate on the factors influencing the use of electronic
payment systems among customers thus leaving a lot to be done on the subject matter.

2.5 Conceptual Framework
This section offers the conceptual framework that provides an insight into factors influencing the use of electronic payment systems among bank customers using the diagram presented below

Figure 2.1: Conceptual Framework

![Diagram showing conceptual framework]

2.5.1 Relationship between Variables
In this study independent variables are ICT know how and security related issues and dependent variable is use of e-payment system in banking industry. The study considered that there is positive relationship between ICT know how and use of e-payment system in banking industry. This imply that as consumers have higher ICT know how they are capable to use e-payment system in banking industry and if they have no ICT know how they are highly restricted to use e-payment system in banking industry.

The security related issues have negative relationship with use of e-payment system in banking industry. This implies that as customers are facing security related issues they are likely to distort use of e-payment system in banking industry. The lower the
security related issues the higher the adoption and use e-payment system among customers in banking industry.

2.6 Chapter Conclusion
This chapter reviewed two theories that guide factors influencing the use of an electronic payment system that namely the unified theory of acceptance and usage of technology; and innovation diffusion theory. On the other hand, the chapter reviewed several empirical studies that offered useful intuitions on the variables to be used and the methodology. Furthermore, the chapter provided the research gap and offered a conceptual framework.
CHAPTER THREE

METHODOLOGY

3.0 Introduction
This chapter provides clarity about the methodology that has been applied in this study. It is divided into eight sections. The first section (3.1) presents the design of the research; section 3.2 discusses the study area; section 3.3 covers study population; section 3.4 provides sampling techniques; section 3.5 discusses data collection methods; section 3.6 offers variables operationalization; section 3.7 presents the data analysis and section 3.8 provides a conclusion of the study.

3.1 Research Design
The study used a cross-sectional mixed research plan to address the study objectives. The study used a structured questionnaire that was administered to the respondents who are customers of NMB Bank in the Dar es Salaam region from the chosen branches. On the other hand, the study employed an interview technique to get answers from key informants who are bank personnel. This implies that the study used primary data. Specifically, the study used a cross-section study of NMB bank, based in Dar es Salaam city, whereby some branches of NMB bank were chosen for this particular study.

The choice of NMB bank is because is one of the leading banks with a broad customer base in the country and it has been updating its technology with time to meet its customer wants. Dar es Salaam city on the other hand is chosen since it is a country business capital with a high population, whereby census report of 2012 report about 5 million people to reside in Dar es Salaam. Also, the city has financial needs and specifically banking needs due to large population, hence motivated the researcher to conduct this study in this city.
3.2 Area of the study
A study area entails all categories that the research falls into. It explains the scope for which data will be collected and analyzed (Maxfield and Babbie, 2014). This study was held at the Dar es Salaam region. Dar es Salaam as a case study was chosen because it is a country business hub with the highest population of around 5 million as of 2012 according to Census report, 2012. Further, the case study was chosen because it has huge financial needs and banking needs due to the high population and the fact that it is a country business capital.

3.3 Population of the Study
The study population means a given unit of analysis with similar characteristics that have met selection criteria to represent the behaviour of the rest studied group, from which sample is taken for further investigation (Adam and Kamuzora, 2008). In this study, the population of the study comprised NMB bank customers in Dar es Salaam city. The selected population was very representative and provided much and useful insights. Thus, for the Dar es Salaam region, there are about 567,561 active customers for the NMB bank (NMB, 2019).

3.4 Sampling Techniques and Sample Size
3.4.1 Sampling Techniques
A sampling technique is a process of extracting a group of observations from a larger population for further analysis in the study (Packard, 2013). Due to the current situation of the Coronavirus disease of 2019 (COVID 19), the study applied a convenient sampling technique to obtain the targeted sample population. A convenient sampling technique refers to a non-probability technique in which subjects were selected because of their opportune accessibility to the researcher. The main strength of this technique is that it saves time. The sampling technique enables the collection of data to a much shorter time compared to other techniques.
3.4.2 Sample Size

Sample size means the number of observations or replicates to be selected from the true population from which statistical inferences will be generalized. The sample size generated should be sufficient to provide a confidence interval preferred to achieve the objectives of the research and it should contain major features of the targeted population (Creswell, 2013). This study selected a total of 250 bank customers from NMB bank. These are active customers who represent well the users of electronic payments services within the NMB bank. The sample size was divided across six NMB bank branches to increase the level of representation.

3.4.3 NMB Bank

Six NMB bank branches were selected and included in this study to obtain a good representation of the sample size. Figure 3.1 presents the NMB bank branches that were visited.

Figure 3.1: NMB bank branches

Source: Data Analysis (2020)
Findings from Figure 3.1 show that around 19.5 percent of the respondents were from the NMB headquarters followed by 19.5 percent who were from the Mbagala branch. Findings further show that around 17 percent of the respondents were from the NMB house branch followed by 16.26 percent of the respondents who were from the Kurasini branch. It is further observed that around 15 and 12 percent of the respondents were from the Kigamboni branch and Tandika branch respectively. This indicates that the study considered in obtaining a good representation by surveying different bank branches.

3.5 Data Collection Methods and Instruments

Data collections are the practice of collecting quantitative and qualitative information on certain variables to assess outcomes or bring together actionable insights (Walliman, 2011).

The study applied both primary and secondary data collection methods. The study mainly used primary data to answer the study objectives through the identified methodology approach. On the other hand, secondary data were used to complement the primary data obtained.

3.5.1 Questionnaire

It is a research instrument comprising of a sequence of questions distributed to respondents to obtain certain facts. Questionnaires are convenient, quick to control to a large number of respondents, and can geographically be used to cover large areas (Walliman, 2011). The study used a Likert scale structured questionnaire with both open and closed-ended designed questions which were then distributed to 250 sampled respondents (bank customers).

3.5.2 Interview

An interview is a research collection practice in which an interviewer coordinates the conversation process and asks questions to participants with the focus of extracting experiences, opinions, thoughts as well as deep insights about subject matter within the study (Picard, 2013).
Interviews were administered to bank branch personnel to provide their perceptions regarding the use of electronic payment systems among its members.

3.5.3. Documentary Review
This refers to a data collection technique that involves extracting particular information from the written documents (Raj, 2002). The study used stored data from Bank of Tanzania, NMB branches information concerning the general number of customers available as well as various financial articles when deepen understanding of factors prompting the use of electronic payment systems among bank customers.

3.6 Variables Definition and Measurements
This section offers the definition of the study variables as well as their measurements. It also presents the likely relationship of explanatory variables with the dependent variable.

a) Dependent variable
The use of the electronic payment system is the dependent variable for this study. It is numeric in nature that captures the frequency of use of an electronic system.

b) Independent variables
ICT know-how refers to the awareness by the bank customers regarding the ICT and e-payment services. This variable was measured using 5 items that will be captured using a 5 point Likert scale. The study expects that ICT know-how to have a positive relationship with the use of the electronic payment system.

Security-related issues refer to security-related matters that are being associated with the use of electronic payment systems by bank customers. This variable was measured using the 4 items that will be measured using the 5 point Likert scale. The study thus expects that security-related issues to positively affect the use of the electronic payment system in the banking industry.
Age refers to the age of the respondent in years. It is a numerical variable that is being measured in years. The study expects that the age of the respondent to have a positive relationship with the use of the electronic payment system.

Sex refers to the biological nature of the respondent. It’s a binary variable with a value of 1 if the respondent is male and 0 if the respondent is female. The study thus expects male respondents to have a positive relationship with the use of an electronic payment system.

The education level is uppermost education level attained by the respondent. It is a categorical variable with four categories that include primary, secondary education, diploma education, and University education. The study thus expects that the education level will have a positive relationship with the use of the electronic payment system.

Occupation refers to the main job or activity of the respondent from which s/he earns income. It is a categorical variable with 5 categories that include employed, businessman, livestock keeper, farmer, and student.

Income refers to the earnings of the respondent monthly from the main occupation. It is a numeric variable that is being measured in Tanzanian shillings. The study thus anticipates that income to have a positive relationship with the use of the electronic payment system.
Table 3.1: Summary of variables, indicators, and their Measurements

<table>
<thead>
<tr>
<th>s/n</th>
<th>Variable</th>
<th>Indicators</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Use of e-payment services</td>
<td>• Frequency of use</td>
<td>• Metric scale</td>
</tr>
<tr>
<td>2</td>
<td>Security-related issues</td>
<td>• Online Theft</td>
<td>• Ordinal scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Phishing and pharming</td>
<td>• Ordinal scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Virus</td>
<td>• Ordinal scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Worms</td>
<td>• Ordinal scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Trojan horses</td>
<td>• Ordinal scale</td>
</tr>
<tr>
<td>3</td>
<td>ICT know-how</td>
<td>• Error</td>
<td>• Metric</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Queries.</td>
<td></td>
</tr>
</tbody>
</table>

3.7 Model of the study

This study have two independent variables namely ICT know how and security related issues. The study has one independent variable which is use of e-payment system in banking industry. In order to establish the relationship and the effect of independent variables and dependent variable multivariate linear regression model was developed to capture the relationship and the effect of independent variables on dependent variable. The study assumed the following function model:-

\[
\text{Use of e-payment system} = f (\text{ICT know how and security related issues})
\]

From this function model the study developed an econometric model in order to capture the relationship and the effect of independent variables on dependent variable. The econometric model as indicated below:-

\[
\text{Use of e-payment system} = \beta_0 + \beta_1 \text{ICT know how} - \beta_2 \text{security related issues} + \mu \ldots \ldots \ldots 1
\]

Whereby:-

\[
\beta_0 = \text{constant value}
\]
\[
\beta_1 = \text{Coefficient of ICT know how variable}
\]
\[
\beta_2 = \text{Coefficient of security related issue variable}
\]
The model indicates that there is positive relationship between ICT know how and use of e-payment system among customers in banking industry and there is negative relationship between security related issues and customer use of e-payment system.

3.8 Data Analysis Method
The study employed two data analysis techniques using Statistical Package for Social Sciences (SPSS) software version 20 when analyzing factors that influence the use of electronic payment systems by the NMB bank customers. Firstly, the study used the descriptive analysis technique to analyze the demographic information such as the age, education level, main occupation and monthly income; and the bank-specific information such as the bank branches, and the number of years customers have banked with the NMB bank. On the other hand, the study employed a multiple regression approach to examine the factors influencing the use of electronic payment systems among the NMB bank customers in Dar es Salaam.

The motivation for using multiple regression is the continuous nature of the reliant variable. The use of electronic payment system is a binary dependent variable with a value of 1 if the respondent uses an electronic payment system and 0 if otherwise. Independent variables will include ICT know-how and security related issues. Intermediating/control variables will include gender, age, education level, income, and occupation.

3.9 Validity and reliability
In this study the issues related with validity and reliability was considered very important in order to ensure the results represent what is actually happening to the field. In order to ensure the reliability and validity the researcher conducted a pilot study to test data collection instruments if they were capable to detect information actually happening to the field. Pilot study was conducted for 10 staff and comments related to the data collection instrument were made before starting actually process of collecting data. In addition to that to ensure validity and reliability was done the researcher used more than one data collection instrument and proper coding of data for all data collection instrument was made in order to facilitate true and reliable data
are used in report writing. Furthermore; after report prepared it was submitted to supervisor who proposed some comments in order to ensure the report remain reliable and valid and comments were made as it was proposed.

3.10 Ethical Considerations
The study considers ethical value to be important during preparation of data collection instrument and data collection. During the preparation of data collection instrument researcher prepared questions that promote ethical value. Ambiguity questions were not prepared in order to stimulate ethical consideration. During data collection, the participants were asked to participate willingly. No respondent were forced to participate in the study. Right to ask any question was granted to respondents.

3.11 Chapter Conclusion
The study used a cross-sectional mixed research design that consisted of both quantitative and qualitative data collections and analysis techniques. Furthermore, the study employed a structured questionnaire, documentary review, and interviews to collect the data from the respondents. The convenient sampling technique was preferred due to the nature of the COVID 19 situation in the country and globally. Furthermore, to analyze the factors that influence the use of the electronic payment system the study employed a multiple regression approach since the reliant variable is continuous in nature capturing frequency use of electronic system.
CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.0 Introduction
Chapter four provides a presentation of the findings and data analysis, this chapter is divided into three parts. Section 4.1 offers variable descriptive analysis; section 4.2 offers the use of Electronic Payment system, security-related matters, and ICT know-how. Section 4.3 provides the presents of simple multiple regression estimation.

4.1 Descriptive Analysis
4.1.1 Demographic Information
This section explains the demographic analysis of the key variables used in this study. The variables discussed herein include sex of the respondent, respondent level of education, marital status, and monthly income.

4.1.1.1 Sex of Respondents
The customers using electronic payment system involves both male and female. The study was interested to know extent of male and female who use electronic payment system through banking services. The finding obtained is presented at Figure 4.1:
Figure 4.1 shows that around 61 percent of the respondents are males and the remaining 39 percent of the respondents are females. The findings provide an implication that the study considered both males and females in examining the factors that influence the use of the electronic payment system among the bank customers.

4.1.1.2 Education level of Respondents

The customers using electronic payment system are of different education levels. The study was interested to know education level of respondents who were capable to answer questions related with use electronic payment system through banking services if they reflect the views of customers of different education status. The finding obtained is presented at Figure 4.2:
Figure 4.2 reveal that around 43.9 percent of the respondents have attained university education level followed by around 22.7 percent of the respondents who have attained secondary education level. Furthermore, around 16.6 percent of the respondents have achieved primary and certificate/diploma education levels each. This kind of findings suggests that most of the respondents are well educated and have a good understanding of the use of electronic payment systems in conducting their bank transactions.

4.1.1.3 Marital Status of Respondents
The customers using electronic payment system are of different marital status. The study was interested to know marital status of respondents who were capable to answer questions related with use electronic payment system through banking
services if they reflect the views of customers of different marital status. The finding obtained is presented at Figure 4.3

**Figure 4.3: Marital Status of Respondents**

![Marital Status Chart]

Source: Data Analysis (2020)

Figure 4.3 revealed that; around 68 percent of the respondents are married, while 29 percent of them are single. Findings further show that the remaining 2 percent are divorced and around 1 percent is widows. The finding has implication all marital status involving single, married, divorced as well as widow participated in answering the questions related with the use of electronic payment system.

**4.1.1.4 Occupation Status of Respondents**

The customers using electronic payment system are of different occupation status. The study was interested to know occupation status of respondents who were capable to answer questions related with use electronic payment system through banking
services if they reflect the views of customers of different occupation status. The finding obtained is presented at Figure 4.4:

**Figure 4.4: Occupation Status of Respondents**

![Bar chart showing occupation status of respondents](chart.png)

Source: Data Analysis (2020)

Figure 4.4 show that; around 60 percent of the respondents are in formal employment in the sense that they are employed either in private or public offices. Findings further show that around 14 percent of the respondents are involved in small businesses as their main occupation while around 19 percent of the respondents are self-employed but not in business. Nevertheless, it is observed that around 4 percent of the respondents are farmers while the other 4 percent are retired fellows. Therefore, findings suggest that bank customers are individuals from different sectors, mostly being from the formal sector and small business.
4.1.1.5 Monthly Income Status of Respondents

The customers using electronic payment system are of different monthly income status. The study was interested to know monthly income status of respondents who were capable to answer questions related with use electronic payment system through banking services if they reflect the views of customers of different monthly income status. The finding obtained is presented at Figure 4.5:

Figure 4. 5: Monthly Income Status of Respondents

![Bar Chart](attachment:chart_image.png)

Source: Data Analysis (2020)

Figure 4.5 show that around 32.5 percent of the respondents earn around 500,000/= to 1,000,000/= Tanzanian shillings (TZS) per month followed by around 26 percent who earn around 1,000,000/= to 4,000,000/= TZS per month. Around 24 percent of the respondents earn around 100,000/= to 400,000/= TZS per month while 6.5 percent earn around 5,000,000 to 10,000,000/= TZS per month. However, findings reveal that around 8 percent of the respondents earn less than 100,000/= TZS per month while
around 3 percent earn more than 10 million TZS per month. This kind of findings suggests that most of the respondents earn moderately from 100,000/= TZS to around 4,000,000/= TZS per month. Yet, it is evidenced from the findings that there are individuals who earn very little that is less than 100,000/= TZS per month that when divided by 30 days of a month it shows they are living below the international poverty line.

4.1.2 Banking Experience with NMB Bank
The study also analyzed the number of years that customers banked with NMB bank. This aimed to see how well customers know their bank and services offered. Figure 4.6 presents the duration that customers have been banking with NMB bank.
Figure 4.6: Banking Experience with NMB Bank

Source: Data Analysis (2020)

Figure 4.6 shows that around 44 percent of the NMB bank customers have been banking for over 10 years with the NMB bank while around 29 percent of the respondents have been banking with NMB in duration of 1 to 5 years. It is further observed that around 26 percent of the respondents are customers for the NMB bank for duration of 5 to 10 years. Findings provide implications that more than 70 percent of the NMB bank customers have been banking with the bank for more than 5 years. Therefore, this means they have a great experience with the bank and they are aware of the services delivered by the bank.
4.2 Use of Electronic Payment System, Security Related Matters, and ICT Know-how.

This section presents findings on the security-related matters and the ICT know-how regarding the use of electronic payment systems by the bank customers. The general objective of the study is to examine the factors that influence the use of electronic payment systems by the bank customers using NMB bank as the case study. Therefore, this section analyses the use of electronic payment systems, the duration of banking with NMB bank, security-related matters, and the ICT know-how on the use of electronic payment systems among the banking industry.

4.2.1. Use of an Electronic Payment System

The study analyzed the use of electronic payment systems among the NMB bank customers.

Figure 4. 7: present the frequency of the use of electronic payment systems.

Source: Data Analysis (2020)
Findings reveal that most of the bank customers used electronic payment system more than four times per month (46.64%), followed by those using three times (22.27%), two times (14.71%), and once (16.39%). These findings provide an implication that most of the NMB bank customers are aware and are using the electronic payment services available at the bank that include ATM services, Simbanking, and internet banking.

4.2.3 Security Related Matters
The use of electronic payment systems among the bank customers has been associated with the trust and security related matters concerning transactions. This study analyzed the security-related matters, whereby four items were used to measure the security-related matters using the five points Likert scale.

4.2.3.1 Theft challenges in their bank accounts when using the e-payment systems
The study investigated if customers have been facing theft challenges in their bank accounts when using the e-payment systems. The respondents were asked to rate level of threats challenges they have been faced when using e-payment systems. The finding obtained is presented at Figure 4.7.
Figure 4.8: Theft challenges in their bank accounts when using the e-payment systems

![Bar Chart](image)

Source: Data Analysis (2020)

Figure 4.7 reveals that about 89 percent of the respondents agree that they have been facing high and very high threats of theft challenges in their bank accounts when using the e-payment systems. This has implication that when using e-payment systems customers are facing high threats related with theft challenges in their bank accounts.

4.2.3.2 Viruses’ attacks challenge threatens and discourages use of e-payment system

The study investigated if viruses’ attacks are the challenge that threatens and discourage the use of electronic payment system among bank customers. The respondents were asked to rate extent of levels of how viruses’ attacks are the
challenge that threatens and discourage the use of electronic payment system among bank customers. The finding obtained is presented at Figure 4.8.

**Figure 4.9: Viruses’ attacks challenge threatens and discourages use of e-payment system**

Source: Data Analysis (2020)

Figure 4.8 reveals that about 56 percent of the respondents agreed that viruses’ attacks is high and very high threats that threatens and discourage the use of electronic payment system among bank customers. This has implication that viruses’ attacks are very important challenge that threatens and discourage the use of electronic payment system among bank customers. The efforts of addressing this challenge is needed in order to promote effective use of electronic payment system in banking industry in Tanzania
4.2.3.3 Fronting worm’s attacks threatened and discouraged the use of e-payment systems

The study investigated if fronting worm’s attacks threatened and discouraged the use of electronic payment systems among bank customers. The respondents were asked to rate the extent of levels of how fronting worm’s attacks threatened and discouraged the use of electronic payment systems among bank customers. The finding obtained is presented at Figure 4.9.

Figure 4. 10: Fronting worm’s attacks threatened and discouraged the use of e-payment systems

Source: Data Analysis (2020)
Figure 4.9 reveals that about 93 percent of respondents considered that fronting worm’s attacks brings high and very high threatened and discouraged the use of electronic payment systems among bank customers. This has implication that fronting worm’s attacks is high challenge threatened and discouraged the use of electronic payment systems among bank customers. The efforts of addressing this challenge is needed in order to promote effective use of electronic payment system in banking industry in Tanzania

4.2.3.4 Trojan attacks discouraged the use of e-payment systems

The study investigated if customers are thinking of stop using the e-payment system due to Trojan attacks that discouraged the use of electronic payment systems among bank customers. The respondents were asked to rate extent of levels of how customers are thinking of stop using the e-payment system due to Trojan attacks that discouraged the use of electronic payment systems. The finding obtained is presented at Figure 4.10.
Figure 4.10 reveals that about 95 percent of the respondents considered at high and very high threats related with thinking of stop using the e-payment system due to Trojan attacks that discouraged the use of electronic payment systems among bank customers. This has implication that Trojan attacks is high challenge threatened and discouraged the use of electronic payment systems among bank customers. The efforts of addressing this challenge is needed in order to promote effective use of electronic payment system in banking industry in Tanzania.
4.2.3.5 Phishing and pharming challenges discouraged use of e-payment systems

The study investigated if phishing and pharming challenges that have discouraged the use of electronic payment systems among the bank customers. The respondents were asked to rate the extent of levels of how phishing and pharming challenges discouraged the use of electronic payment systems among the bank customers. The finding obtained is presented at Figure 4.11.

Figure 4.12: Phishing and pharming challenges discouraged use of e-payment systems

Source: Data Analysis (2020)
Figure 4.11 reveals that about 91 percent of respondents considered very high and high treats of phishing and pharming challenges that have discouraged the use of electronic payment systems among the bank customers. This has implication that phishing and pharming is high challenge threatened and discouraged the use of electronic payment systems among bank customers. The efforts of addressing this challenge is needed in order to promote effective use of electronic payment system in banking industry in Tanzania

In summary from the five items analyzed regarding the security-related matters on the use of electronic payment systems, the findings suggest that the use of electronic payment systems relies on the well-secured system that will increase customer trust and confidence in the banking services.

4.2.4 ICT Know-How
ICT know-how is another factor that has been taken into contemplation in examining the factors that influence the use of the electronic payment system among bank customers. ICT know-how was measured on a five-point Likert scale using the five items. The ICT know-how opinions from the respondents are presented in the following sub section.

4.2.4.1 Challenges using an e-payment system create queries
The study investigated the opinion of respondents if challenges using electronic payment system have been creating queries. The respondents were asked to rate their level of agreement whether challenges using electronic payment system have been creating queries. The finding obtained is presented at Figure 4.12.
Figure 4.13: Challenges using an e-payment system create queries

![Bar chart showing responses to a question about facing challenges when using an e-payment system.]

Source: Data Analysis (2020)

Figure 4.12 indicates that around 93 percent of the studied respondents strongly agree and agree on facing challenges when using an e-payment system that creates queries. The finding has implication that customers when using electronic payment system and faces some challenges creates queries on services. The efforts of addressing challenges using electronic payment system need to be dealt with in order to promote efficient services to the customers.
4.2.4.2 Error challenges when using the e-payment system

The study investigated the opinion of respondents if there are error challenges when using electronic payment system. The respondents were asked to rate their level of agreement whether customers are facing error challenges when using electronic payment system. The finding obtained is presented at Figure 4.13.

Figure 4. 14: Error challenges when using electronic payment system

![Error challenges when using electronic payment system](image)

Source: Data Analysis (2020)

Figure 4.13 indicates that around 92 percent of the studied respondents strongly agree and agree on customers are facing error challenges when using electronic payment system. The finding has implication that customer when using electronic payment
system do face error challenges. The efforts of addressing error challenges using electronic payment system need to be dealt with in order to promote efficient services to the customers. Therefore in summary the study indicates that the use of the e-payment system is still faced by challenges that include errors and queries that in one way or another discourages the use of electronic payment systems among the customers in the banking industry.

4.4 Simple Multiple Regression Estimation

Simple multiple regression was employed to analyze the factors influencing the use of electronic payment systems among bank customers in the banking industry. The use of simple multiple regression approach was motivated by the continuous nature of the dependent variable also due to study relationship between two continuous (quantitative) variables. The study estimated two different models;

4.4.1 Estimating the Effect of ICT know-how on the use of E-payment

To estimate the effect of ICT know-how on the use of the e-payment system, the study used multiple regression. The dependent variable was the frequent use of the electronic payment system. The independent variables were security-related matters while the control variables include age, education level, and experience. Table 4.3 presents the effect of the ICT know-how on the use of the e-payment system

| Table 4. 1: Effect of ICT know-how on the use of e-payment system (R² = 0.169) |
|--------------------------|----------------|----------------|----------------|----------------|----------------|
| Model                   | Unstandardized Coefficients | Standardized Coefficients | t   | Sig. | Collinearity Statistics |
|                         | B    | Std. Error | Beta  | t    | Sig. | Tolerance | VIF |
| 1 (Constant)            | 2.456 | 0.518     | 4.743 | .000 |      |           |     |
| ICT                     | 0.151 | 0.009     | 0.100 | 2.884 | .007 | .632      | 1.673 |
| AGE                     | -0.008 | 0.008    | -0.069 | -0.942 | .347 | .639      | 1.564 |
| EDU                     | 0.270 | 0.065     | 0.270 | 4.127 | .000 | .792      | 1.262 |
| EXP                     | 0.291 | 0.103     | 0.215 | 2.827 | .005 | .588      | 1.701 |

a. Dependent Variable: EPS
Where:
ICT = ICT know-how
AGE = Age of the respondents
EDU = Level of education
EXP = Experience
EPS = Use of e-payment system

Table 4.3 reveal the R square of 0.169 which implies that the use of e-payment in this given model is explained by ICT know-how and the control variables by around 17 percent. Furthermore, the findings show that ICT know-how has a positive significant effect on the use of e-payment systems among bank customers. It is observed that when ICT know-how has assisted in solving the errors and queries linked to the use of e-payment systems result in to no decline in the use of e-payment among the bank customers by around 15 percent.

It is further observed that education level has a positive significant effect on the use of e-payment systems among NMB bank customers. The probability of the more educated customer using the e-payment system is 27 percent higher in comparison to the less educated customers. This means that more educated customers have a high probability of knowing the uses of electronic payments and the advantages that comes with it.

Experience of banking with NMB bank is witnessed to have a positive significant effect on the use of electronic payment systems. Findings show that when the customers have more banking experience, it increases the probability of using the electronic payment system by around 29 percent in comparison to the customers with less banking experience. This means that more banking experience offers customers more opportunities of knowing a variety of available services at the bank including e-payment and the usage of such services.
4.4.2 Estimating the Impact of Security Related Matters on the use of E-payment

The study also estimated the model for analyzing the impact of security-related matters on the use of e-payment systems among bank customers. The dependent variable is the use of the e-payment system. The independent variables include security-related matters, while the control variables include age, education, and experience. Table 4.4 presents the results on the impact of security-related matters on the use of e-payment.

Table 4.2: Impact of Security related matters on use of e-payment system ($R^2 = 0.179$)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
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<td>(Constant)</td>
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<td>0.008</td>
<td>-0.077</td>
</tr>
<tr>
<td>EDU</td>
<td>0.250</td>
<td>0.066</td>
<td>0.251</td>
</tr>
<tr>
<td>EXP</td>
<td>0.299</td>
<td>0.102</td>
<td>0.221</td>
</tr>
</tbody>
</table>

Where:

SRM = Security related matters
AGE = Age of the respondents
EDU = Level of education
EXP = Experience
EPS = Use of e-payment system

Findings show that the obtained R square is 0.179 that indicates that the use of the e-payment system is explained by around 18 percent by the security-related matters and the control variables. Furthermore, findings show that security-related matters have a negative significant effect on the use of the e-payment system among NMB bank customers. It is observed that when the bank customers are facing an increasing
number of challenges on security-related matters it results in a decline in the use of e-payment system declines by around 29 percent.

It is further observed that education level has a significant positive effect on the use of electronic payment systems among NMB bank customers. The probability of the more educated customer using the e-payment system is 25 percent higher in comparison to the less educated customers. This means that more educated customers have a high probability of knowing the uses of electronic payments and the advantages that comes with it.

The experience of banking with NMB bank is perceived to have a positive significant effect on the use of electronic payment systems. Findings show that when the customers have more banking experience, it increases the probability of using the electronic payment system by around 29 percent in comparison to the customers with less banking experience. This means that more banking experience offers customers more opportunities of knowing a variety of available services at the bank including e-payment and the usage of such services.
CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

Findings from Table 4.3 reveal that ICT know-how has a positive significant effect on the use of electronic payment systems among the NBM bank customers.

It is observed that when ICT know-how has assisted in solving the errors and queries related to the use of e-payment systems it results in a no decline of the use of e-payment among the bank customers by around 15 percent. This indicates that ICT know-how should aid in reducing the errors and queries of the e-payment system, failure of which will result in a decline in using the e-payment system by customers. Similar findings were also obtained by the previous studies that showed ICT know-how influenced the use of electronic payment systems among customers (Al-Qadi, 2018).

Furthermore, it is observed that security-related matters harm the use of the electronic payment system among bank customers. It is observed that when the bank customers are facing an increasing number of challenges on security-related matters it results in a decline in the use of e-payment system declines by around 29 percent. This indicates that the use of the e-payment system by the bank customers relies on the trust bestowed particularly on the security of the system. When customers perceive that the e-payment available is secure and reliable, with few related challenges, the likelihood of using the e-payment system increases but when they perceive that the system is insecure and has a lot of security-related challenges they are likely not to use the e-payment system. Similar findings were observed in the previous studies (Urs, 2015).
5.1 Findings on Evidenced-Based Ways to Improve the Use of Electronic Payment System

The third objective of the study was to establish evidenced-based ways to progress the use of the electronic payment system in Tanzania. The study used interviews with bank personnel to address this objective. Findings from the interviews revealed the following ways that can be used to improve the use of electronic payment systems by the bank customers.

Education to the Public: findings revealed that the bank is required to provide education to the public on the use of the electronic payment system and its advantages in simplifying the transaction. The education to the public should make sure both rural and urban areas are being taken into consideration. Also, education to the public should concentrate on educating the public about the ICT know-how as well as security-related issues such as bank policy regarding the electronic payment systems.

- To improve TISS and POS systems: interviews with the bank personnel revealed that there is a need to make improvements to the TISS and POS systems. It was stated that given improvements in the TISS and POS systems it will improve the use of electronic payment systems among the bank customers. For instance, the POS system is highly used in several businesses in the Dar es Salaam and other places in the nation, but sometimes it is subjected to errors and shortcomings that need to be addressed.

- Promote internet banking. Findings from the interviews revealed that there is a need to promote internet banking to improve the use of electronic payment systems among bank customers. The use of internet banking needs to be promoted to reach more people, whereby it will enhance banking transactions at the comfort of the customer.

- To improve ATM services: Most of the respondents highlighted the need to improve the ATM services that are offered at different services. Specifically, they pointed the need of increasing the ATMs in different parts of the country especially in the marginalized areas to increase and extend services to more
customers. Secondly, respondents pointed out that there is a need to increase the amounts that a customer can withdraw from the ATM per day due to an increase in demand. Thirdly, it was revealed that there is a need for having deposit machines as well since the recent ATM facilitates withdrawal only. Thus, improving ATM services will increase the use of electronic payment services.

• To improve the network: During the study, it was evidenced that there is a network problem especially during the end of the month that impede the performance of the ATM as well as the mobile and internet banking. Therefore, it was proposed that NMB bank should invest in improving the network used in providing electronic services to provide smooth services and promote the use of electronic payment services. Agabonifo et al., (2012) pointed out that poor network is among the problem facing the electronic payment system in Nigeria and suggested that there is a need to improving the network to promote the use of electronic payment systems in Nigeria.

• To reduce the bank charges: Study results indicated that most of the respondents were of the view that bank charges are very high for the case of NMB bank. Hence, the customers suggested there is a need for cutting down the bank charges to endorse the use of the electronic payment system. Agabonifo et al., (2012) also highlighted that electronic payment banking services are faced with high charges and suggested that reducing the charges would promote the transformation to a cashless economy in Nigeria.

• To increase bank agents: findings from the interviews also revealed that to advance the use of electronic payment systems, there is a need to increase bank agents in different parts of the country. This will increase access to the bank services to its esteemed customers, hence it will boost the use of electronic payment services.
5.2 Findings Conclusion.

The general objective of the study was to examine the factors that influence the use of the electronic payment system among bank customers using the NMB Bank as a case study. The study used multiple regression technique. The findings revealed that ICT know-how has a positive significant effect on the use of electronic payment systems among bank customers. The findings further revealed that university education level has a positive significant effect on the use of electronic payment systems. The monthly income of the respondent that is above ten million Tanzanian shillings per month is perceived to have a significant negative effect on the use of electronic payment systems among the bank customers. Nevertheless, security-related matters are perceived to harm the use of electronic payment systems although not statistically significant. Concerning improving the use of electronic payment services, findings revealed that there is a need to provide education to the public regarding the use of electronic payment services and improving the TISS and POS systems.
CHAPTER SIX

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

6.0 Introduction
This chapter presents the summary and conclusion of the study. Chapter six is divided into five parts. In the first part, section 6.1 provides the summary of the study; section 6.2 offers the study conclusion; section 6.3 gives detailed study recommendations; section 6.4 presents Limitations of the study and section 6.5 presents the areas of further studies.

6.1 Summary of the Study
The use of electronic payment has marked an impressive growth worldwide with the view to simplify and ease business transaction payments. Development in ICT is attributed to this growth. The general objective of this study is to examine the factors that influence the use of electronic payment systems among bank customers using NMB as a case study. Specifically, the study examined the effect of security-related matters on the use of electronic payment systems among bank customers; examined the effect of ICT know-how on the use of electronic payment systems among customers; and established evidenced-based ways of improving the use of electronic payment system.

This study was motivated by the lack of documented research for Tanzania that explains the factors that influence the use of the electronic payment system among bank customers. The study reviewed different theories relevant to the use of an electronic payment system that includes the unified theory of acceptance and usage of technology and innovation diffusion theory. These theories provided useful insights into the study regarding the use of electronic payment systems. Furthermore, the study reviewed several empirical studies that are relevant to the use of an electronic payment system that also provided useful insights about the methodological and various variables to be included in the study.
A cross-sectional mixed research design that includes both qualitative and quantitative data collection and analysis techniques were employed. The study was conducted in Dar es Salaam region surveying a total of 6 NMB bank branches situated in Dar es Salaam. Both random and convenient sampling techniques were used to withdraw a need sample. A sample size of 250 NMB customers was selected using the literature review for the sample size to provide a good representation of the bank customers.

The study used a structured questionnaire to collect the responses from the sampled customers. On the other hand, the study employed interviews to acquire in-depth information from the key informants who are bank personnel. The study employed a simple multiple regression technique to analyze the factors that influence the use of e-payment systems among bank customers. The dependent variable for this study was the use of an electronic payment system that was captured in the number of times the customer has used the e-payment system. The independent variables include security-related matters and ICT know-how. The control variables were age, education, and experience. The study used SPSS version 20 for the analysis.

6.2 Conclusion of the Study
Multiple regression was used in analyzing factors that influence the use of electronic payment systems among bank customers. The study's first objective was to examine the impact of security-related matters on the use of electronic payment systems among bank customers. Findings revealed that security-related matters have a negative significant effect on the use of electronic payment systems among NMB bank customers. This provides implications that poorly enhanced security-related services will result in a decline in the use of electronic payment services.

The second objective examined the effect of ICT know-how on the use of e-payment systems among the NMB bank customers. The results from the analysis discovered that ICT know-how has a positive significant effect on the use of electronic payment systems. This provides an implication that failure of ICT know-how to aid the
reduction in errors and queries when using the e-payment system among the bank customers, the use of an electronic payment system is likely to no decline.

The third objective of the study was to establish evidence-based ways on how to progress the use of electronic payment systems among the NMB bank customers. Findings revealed that among other things, NMB bank needs to provide more education to the public on the proper use of electronic payment services, improve TISS and POS system, promote internet banking and increase bank agents to other places of the country, especially marginalized areas.

6.3 Recommendations
The study findings revealed when ICT know-how has aided in the reduction of errors and queries in using the e-payment system it results in a positive significant effect on the use of e-payment systems among the NMB bank customers. This means that ICT know-how that has aided the reduction of e-payment errors and queries it encourages the use of e-payment system. Therefore, the study recommends that banks should promote and create an ICT know-how enhanced environmentally friendly with its esteemed customers to facilitate and promote the use of electronic payment systems to all its customers.

Furthermore, the study revealed that an increase in the number of challenges in security-related matters results in a decline in the use of electronic payment services by bank customers. Thus, the study recommends that banks should assess and improve the security of e-payment systems to remove the possibilities of online theft and fraud. This can be improved by having two steps verification system during every electronically paid transaction.

Findings further revealed that given improving the use of electronic payment services, there is a need to provide education to the public on the use of electronic payment services, promote internet banking, improve TISS and POS systems and increase bank agents, especially at the marginalized areas. Thus the study recommends that the bank should find ways to improve TISS and POS systems as well as promote internet
banking services. Also, the bank should provide more education on the use of electronic payment services to improve the use of electronic payment services.

6.4 Limitations of the study
Presence of COVID-19 delayed data collection timeframe. And due to inadequate time and funds available the study succeeded to only cover NMB (Dar es Salaam Branches) when assessing factors that influence the use of electronic payment systems among customers.

6.5 Areas for Further Research
The study general objective was to examine factors influencing the use of electronic payment among the bank customers using the NMB bank case study. Therefore, the study acclaims that other studies focus on examining the factors that influence the use of an electronic payment system using the panel data. This will help to identify the factors that influence the use of electronic payment systems among different bank customers.

Future studies should also focus on examining the factors that influence the adoption of the electronic payment systems by the banks. This will help to identify what factors motivated the banks to adopt the electronic payment systems.
REFFERENCES


Amin (2013). Factors influencing Malaysian bank customers to choose Islamic credit cards. *Journal of Islamic Marketing*.


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APPENDIXES

Questionnaire for assessing factors influencing the use of electronic payment system among customers: The case of NMB bank

Dear Respondents,

My name is Rose Hanya. I am currently a course member pursuing a Master’s degree of Business Administration in Corporate Management of Mzumbe University. I am conducting a research study on “Factors influencing the use of electronic payment system among customers: The case of NMB Bank”. Kindly respond to the attached questions as accurately as possible. Where additional space is required please use the backside of the questionnaire form. You are assured that the information you provide is strictly confidential and will be used for academic purposes only.

Thanking you in advance for your co-operation.

Section A

1. Name of Respondent ____________________________________________

2. Age of Respondent ____________ in years

3. What is your gender? (Please tick that apply)
   a) Male (       )
   b) Female (       )

4. Marital status of the Respondent. (Please tick that apply)
   a) Married [  ]
   b) Single [  ]
   c) Divorced [  ]
   d) Separated [  ]

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5. What is your highest academic qualification? (Please tick that apply)
   a) Primary (       )
   b) Secondary (       )
   c) Certificate/Diploma (       )
   d) University (       )
   e) Others, specify ______________

6. What is your main occupation? (Please tick that apply)
   a) Formal employment
   b) Small Business
   c) Self-employment/entrepreneur
   d) Farmer
   e) Others, specify ………………..

7. What is estimated monthly income in Tanzanian shillings?
   a) Less than 100,000/= TZS
   b) 100,000/= – 400,000/= TZS
   c) 500,000/= – 1,000,000/= TZS
   d) 1 – 4 million TZS
   e) 5 – 10 million
   f) Above 10 million

8. For how long have you been the customer of NMB bank? Please tick that applies to you.
   a) 0 – 5 years (       )
   b) 5 – 10 years (       )
   c) Above 10 years (       )

9. (a) Do you use e-payment banking services?
   a) Yes [   ]
   b) No [   ]
(b) Explain why
…………………………………………………………………………………………
…………………………………………………………………………………………
…………………………

10. How many times per month do you use the e-payment banking services?
a) Once
b) Twice
c) Three times
d) More than four times

SECTION B: SECURITY RELATED ISSUES
11. Indicate the extent to which you agree with the following statements by using a scale of 1 to 5 where 1=very low threat, 2=Low threat, 3=Average, 4= High threat, 5=very high threat.

<table>
<thead>
<tr>
<th></th>
<th>Ranking scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you ever been faced theft challenges in your account when using e-payment system?</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Virus’s attacks is a challenges which threaten and discourage you to use e-payment system.</td>
<td></td>
</tr>
<tr>
<td>Worms attacks threaten is a challenge you faced when using e-payment system.</td>
<td></td>
</tr>
<tr>
<td>Have you ever think to stop using e-payment system due to Trojan horse’s attacks?</td>
<td></td>
</tr>
<tr>
<td>Have you ever faced Phishing and pharming challenges when using e-payment system?</td>
<td></td>
</tr>
</tbody>
</table>
SECTION D: ICT KNOW HOW

12. Indicate the extent to which you agree with the following statements by using a scale of 1 to 5 where 1= very low frequency, 2= low frequency, 3=Average, 4= high frequency, 5 = very high frequency.

<table>
<thead>
<tr>
<th></th>
<th>Ranking scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>When using e-payment system have you ever faced challenges that create queries?</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Have you ever faced errors challenges when using e-payment system?</td>
<td></td>
</tr>
</tbody>
</table>

13. What do you think are evidenced based ways that will attract the use of electronic payment system by more customers?

…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………………

14. What are your other comments on how to improve the user experience of electronic payment system among customers?

…………………
…………………
…………………
…………………
…………………