

**ECONOMIC TRANSFORMATION THROUGH MOBILE PAYMENT  
ADVANCEMENTS AND INNOVATIVE SOLUTIONS**

**BY**

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System

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## APPROVAL

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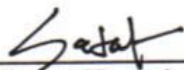
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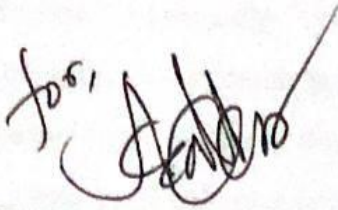
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## **ABSTRACT**

A new age of economic revolution has begun with the development of mobile payment technologies, which have completely changed the way that financial transactions and commercial exchanges take place. The broad effects of new developments in mobile payments and creative solutions on economic systems are examined in this thesis. Due to their ease of use, quickness, and wide accessibility, mobile payments have upended established financial processes, promoting financial inclusion and boosting the economy in a variety of industries.

Mobile payment systems now have much improved security, dependability, and user confidence because to the incorporation of the digital currency and artificial intelligence and biometric identification. These technology developments have lowered transaction costs and expedited financial transactions, which has increased consumer spending and supported the expansion of small and medium-sized businesses (SMEs).

This thesis offers a thorough examination of the financial gains resulting from improvements in mobile payments. It looks at case examples from different parts of the world to show how new technologies are changing both local and global economy. Through their potential to facilitate smooth financial transactions and enhance market efficiency, mobile payments have emerged as a powerful force for economic growth and stability.

The study emphasizes how important mobile payment networks are to promoting equitable economic development, improving financial stability, and enabling effective market dynamics. As these technologies develop further, maximizing their economic potential and tackling the issues of financial exclusion will depend heavily on how strategically they are used.

This thesis seeks to provide important insights into how mobile payment innovations may affect economic systems in the future via a thorough analysis of those implications.

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# CHAPTER 1

## Introduction

### 1.1 Preamble

The main components are presented in this part, which starts with a brief synopsis of the research background, the problems being studied, the goals of the study, its scope, and its importance. This section ends with a summary that highlights the main ideas discussed.

### 1.2 Background of the Study

The invention of a vending machine with text-messaging capabilities in 1998 marked the beginning of research on mobile payment (MP) (Delone and McLean, 2003). [1] Using mobile phones to expedite the transaction process is known as mobile payment (MP). The transaction is initiated, authorized, or confirmed via the mobile device. Cellular providers provide a gateway that links to a user's mobile wallet or bank account. However, owners of bank accounts are not required to utilize mobile payment systems (MPS) like M-Pesa (Hughes and Lonie, 2007) [2].

Thanks to developments When it comes to money technologies, retailers have created their own systems, such PayPal, Apple Pay, and Google Pay. The use of conventional payment methods such as physical currency payments, Transfer by bank transfers, checks, and Transactions using cards has decreased with it is introduction to these platforms. For a variety of reasons,

The introduction of device payments affects completely changed way the community accepts or disburses money. Giving or receiving money in return for goods or services has become easier and more economical in the contemporary era (Harb et al., 2008). [3] such as a payment system simplifies electronic transactions and is available 24/7.

The additional element ensures that a person connects performance control to the designated behavior the concept asserts that.

Self-control, societal norms, and personal thinking all have an impact on human behavior. Therefore, human behavior and the general public's acceptance of MP are correlated

Two technological approaches are used by MPS: Application Programming Interface (API) and Near Field Communication (NFC). For instance, M-Pesa enables payments from the sender to the recipient's mobile platform using Near Field Communication (NFC) and Application Programming Interface (API) technology. On the other hand, the mobile application requires internet access and works as a mobile wallet. In addition to managing the

start and finish of payment operations, the mobile application has to provide account information. Premier Wallet is one example of a mobile application. According to Ondrus and Pigneur (2009), the main difference between the two systems is that M-Pesa does not need an internet connection, while the mobile app does. Due to their usage of NFC technology, which enables users to either touch or use QR Codes, the majority of MP platforms share characteristics. Consequently, MPS has made payments easier for customers by optimizing the process.

In Somalia, Premier Wallet is a mobile payment service that offers fee-free instant receipt and payment. Premier Wallet (2018) said that there are more than two million users on the MP platform. With over 1.9 million users, private individuals make up the highest share. Businesses come in second with over 200,000 members, followed by dealers who possess approximately 6,000 users. This data indicates Individual clients have completed more transactions over 20 million SSH (Premier Wallet, 2021). Over 7 million , 9 million SSH worth of transactions have been completed by the companies and dealers, respectively (Appendix 1). Based on its performance over the last 14 months, Premier Wallet has become more popular, according to the data (see Appendix 2). However, the number of users fluctuates, mostly as a result of changes in the state of the economy.

According to a 2019 Riksbank analysis, the adoption of Mobile Payment Systems (MPS) has led to a decline in Withdrawals from cash machines and other conventional ways of money transmission. Furthermore, A nation has become digital. transactions to such an extent that less than 19% of Somali adults who are 18 years of age and older still use physical money (Statista, 2017) [4]. The vast majority of people utilize internet banking and MPS services. Somalia claimed a smartphone penetration rate of above 85% based on a 2018 survey (Ibid.). Furthermore, the results show that fewer than 2% of Somali adults individuals above 18 are not granted access to MPS.

### **1.3 Problem Statement**

Developed and rising countries are adopting the MPS. Emerging economies have a comparatively worse socio-economic and technical environment in comparison to established countries nevertheless, nations such as Kenya have a significant level of mobile penetration. Delone and McLean (2003) observed that the level of banking and internet use in emerging markets is somewhat lower compared to developing countries [5]. Hence, mobile payment proves to be convenient in assisting those who lack access to traditional banking services.

Countries like Somalia are developing advanced Mobile Payment Systems (MPS) such as Contactless Mobile Payments (CMP) using NFC Technology (Harb et al., 2013) [6]. An analysis is necessary to examine the growing usage of mobile payment in both established and developing countries. The study utilises exploratory research to investigate the issue in a logical manner. The study facilitates comprehension of aspects that will augment its acceptance and boost consumers' experience. The study examines the variables that influence the global adoption rate, with a specific emphasis on Somalia. The study and suggestion in this thesis will assist policymakers, IT experts, mobile carriers, and financial actors in enhancing the adoption, security, and stimulation of economic activity in the MP system (Harb et al., 2008); (Carr, 2007) [7]. The introduction of new payment methods has heightened the motivation of all parties involved to enhance their existing procedures. Hence, the research offers comprehensive insights into the strengths, weaknesses, opportunities, and dangers of each economy.

#### **1.4 Research Questions**

In comparison to the factors that affect the client acceptance process of mobile payment systems in other countries, how distinctive are the characteristics that have an effect on the process in Somalia? Furthermore, how do these distinctions not only differ from one another but also from one another at the same time? What are the circumstances that led to the establishment of these disparities in the first place, and to what extent do these differences vary from one side or group of people to another competing among themselves?

In addition to the goal of this inquiry, which is to examine the elements that have an effect on the adoption process, the objective of this study is to obtain information on the components that have an influence on the adoption process in Somalia and other countries. The basic target of this research is to achieve the primary goal of this study, which is to gain a more in-depth knowledge of the components that have an influence on adoption. The purpose of this inquiry is to accomplish that essential core objective. One further advantage of this is that it provides an explanation for the diversity in the rate of adoption that takes place in various nations. An important benefit is that this is the case. The fact that this is the case is among the most important benefits currently available. It is also possible to gain an extra benefit as a consequence of the fact that this is the case, which is an additional advantage. When a person is able to obtain a more extensive understanding of variety, they are able to acquire a unique perspective that can be utilised for the goal of overcoming obstacles and enhancing the implementation of new ideas or techniques. This new viewpoint may be used to improve the

implementation of new ideas or methods. On the condition that the individual is able to acquire this comprehension, this is a possibility. This is because the individual will be able to get a more comprehensive understanding of the idea of variety throughout the course of the experience. Obtaining an awareness of the many classes of products is one way that may be used in order to accomplish this purpose. This is something that can be done because one has a more thorough comprehension of the many various values that are conceivable. This is the reason why this is something that can make a difference. One further thing to consider is that this is something that is enough to make sure and it also can be done.

### **1.5 Delimitation**

The main emphasis of this study will be the applications that are being created especially for mobile devices at the same time that this study is being conducted. This investigation will also centre on application programming interfaces (API). Customers may choose from a variety of available payment options in the present scenario. The research's objective is to accomplish the previously stated goal in order to satisfy the aim of identifying the elements that are responsible for the present rate of MP penetration. The study employs a variety of unique ideas related to technology usage in order to achieve this goal. The purpose of this action is to accomplish the aim of determining the elements that led to the existence of the particular situation. This is the rationale for the execution of this task. The Technology Acceptance Model (TAM) is elevated to a more prominent role throughout the study project, with a focus on the Diffusion of Innovation (DOI) approach in particular [8]. The proper operation of MP technology requires the deployment of a mobile application that requires the exchange of monetary value between two parties involved in commercial activity. The only way to ensure the effective operation of MP technology is in this manner. It is feasible to guarantee that MP technology will be able to provide outcomes that are sufficient by carrying out this approach. This is the only method via which it is feasible. The people taking part in the research being conducted in the framework of this study are those who are currently in the process of transferring money from one person's account to another. The study on this issue is being conducted in the United States of America. The process of moving money from one personal account to another is covered by this method. In order to accomplish the goals of this approach, money must be moved between accounts.

This resulted in the main data collection efforts being limited to the area that is recognised as Somalia's national territory. This was a direct outcome of the existing conditions. This

incident happened because of the conditions that were in existence at the time and were a direct outcome of those conditions. The results of the secondary data analysis show that there is information available on the adoption of lawmakers from a variety of places, including Somaliland and Kenya, among others. The secondary papers include this information. These two bits of information are part of the secondary data set. The secondary publications may provide you with this information if you look hard enough. The secondary data combines the two bits of information that are included in the original data. If you look hard enough, you can find this information in secondary literature. You may get this information from secondary publications. The primary focus of the research was the client, and patterns of attitude and intention to use were found via analysis. This is an additional interesting aspect that was considered. The client's involvement served as the means by which this aim was achieved. On the other hand, the information that is delivered is unconstrained and may be employed in any desired method since it provides the greatest value discoveries to developers, suppliers, customers, MPS consumers, and on the other hand we can mention the user's such like academic learners.

## **1.6 Summary**

The global economy is undergoing tremendous changes as a result of the quick development of new financial solutions and mobile payment technologies. These changes are the result of the most recent occurrences. certain changes are directly related to the quick development of certain specific technologies (technological breakthroughs). The many kinds of innovations that are now occurring are directly causing the economy to go through major changes. These technologies contribute to the expansion of financial inclusion for many reasons. They enable the execution of safe and effective transactions, which is one of the reasons behind this. The aforementioned observation is especially relevant in cases when financial institutions fail to provide sufficient services to certain geographic areas. They also aid in the extension of the economy, which in turn promotes the growth of the economy, as they encourage the creation of new business models and opportunities. This is because they encourage the creation of fresh company concepts and chances. When contrasted with other approaches, this particular occurrence illustrates yet another way they support economic growth. This is leading to the establishment of a more robust, inclusive, and dynamic global economy, which is boosting economic development. This is the result of it. The financial industry is undergoing a change as a consequence of the advancement of mobile payment technologies, which are also assisting in the growth of this sector. This shift is occurring due to technological

advancements. There's now a change occurring in this specific financial landscape. This is going through a development phase at the same time as mobile payment methods are becoming more and more common in day-to-day life.

## **CHAPTER 2**

### **Literature Review**

#### **2.1 Introduction**

This chapter evaluates and examines research on mobile payment, specifically focusing on consumer concerns and experiences. The study delves further into adoption theories and elucidates the user/consumer/customer mindset towards the use of MP technology. As a result, the literature has addressed significant topics related to innovation and the spread of MP.

#### **2.2 Innovation**

The process of coming up with new ideas, processes, and products that are superior to or distinctive from those that already exist is what we mean when we talk about innovation. The innovation may manifest itself in a variety of ways, including radical innovation, incremental innovation, and disruptive innovation. According to Coccia (2020), [9]. radical innovation is defined as anything that is either an invention or a concept that undermines current technology. As an example, the digital image invention was revolutionary since it did away with the need of film technology.

On the other side, incremental innovation refers to the process of continuously enhancing the technology that is already in existence. There are two names for incremental innovation: architectural innovation and incremental innovation. It is an example of incremental innovation that mobile phone utility has been improved, from the ability to make calls and send texts to the ability to facilitate payments (Ibid) [10]. When we talk about disruptive innovations, we are referring to those that have a major influence on the operation of a market or industry. A excellent example of disruptive innovation is the use of the internet in the establishment of businesses, such as the establishment of online shops and the development of "Uber" services.

#### **2.3 Factors Affecting Mobile Payment Adoption**

Many different factors drive the spread of mobile payment systems, and each of these factors has a major impact on the process overall. All these elements are related to the proliferation of mobile payment methods. These components' laws are classed as falling under the headings of technological, economic, social, and regulatory systems. The laws that follow are also components, in addition to these. The technological infrastructure is crucial as mobile payment systems cannot function without consistent internet connectivity and extensive

coverage from cell networks. This is a result of the technical infrastructure being an essential component. The fact that mobile payment systems rely on these two factors makes it feasible to reach this conclusion. Consequently, this is because mobile payment systems rely entirely on the services under discussion in this specific scenario. This is the cause of the current state of affairs. Every user has to be completely confident that their transactions will be completed promptly, and any technological issues might potentially prevent the system from being adopted. There is no situation in which this need may be contested.

Addressing queries and worries about security and privacy is crucial because consumers need to be completely confident that assaults on the internet won't compromise their financial and private information. This is the case since it is essential that consumers have the confidence that their personal information will be secured. This is the case because it is essential that users be able to access the internet without any interruptions. This is the case because potential customers who want services must have complete confidence that the security of their personal information will be maintained. This is the rationale for the way that events play out. Mobile payments are possible because of two outstanding security features that have the power to allay concerns. An increased number of people can now take mobile payments thanks to these characteristics. It is noteworthy that the characteristics under discussion include the use of secure authentication methods and encryption. The fact that both of the options covered in this article are effective security measures is one consideration that must be made. Before making a decision, a lot of variables need to be taken into account, including how simple the system is to use. This is only one of the many things that need to be thought about. Users are more inclined to adopt systems with user-friendly interfaces and straightforward, as opposed to complex, transaction processes. This is a result of the fact that these kinds of technologies impress customers more. There is a correlation between the presence of these systems and a higher likelihood of their adoption. Users of complicated or technologically complex systems are likely to be discouraged from using them if they are looking for efficient payment solutions. This is in direct opposition to what customers who are seeking for simple-to-use payment methods are looking for. Customers who are looking for options like these can be discouraged from making a purchase for the above mentioned reasons.

Another crucial element is the integration of consumers into the financial system; this is particularly crucial in areas where customers have restricted access to the services offered by traditional banking institutions. Should underbanked or unbanked people be offered an easily accessible option via mobile payments, it is quite probable that more financial engagement

will be possible to encourage. This is due to the fact that mobile payments are more accessible than conventional banking techniques. This is due to the fact that mobile payments are a convenient form of currency transaction. This is the cause of the outcome that was seen. If customers get monetary incentives like cashback promotions, loyalty prizes, and refunds, they could be more willing to accept mobile payments. This is due to the fact that customers are more inclined to believe that their loyalty has paid off financially. This is due to the fact that customers are more inclined to accept payments made using mobile devices. This phenomena is caused by this component. Consequently, it is reasonable to anticipate that the use of mobile payments will rise even more in the coming years. It is because of these provisions that consumers get benefits that are immediately obvious to them. Clients are qualified to get these exclusive benefits.

The availability of mobile money services is crucial in Somalia as the nation lacks a suitable financial technology infrastructure. This specific reason alone explains the importance of mobile money services in Somalia. Due to the inadequate financial infrastructure already in existence, mobile payment solutions are becoming more and more common. This phenomenon might perhaps be explained by the financial infrastructure's inefficiency. This might actually happen. The broad use of this technology is probably related to a number of different factors that are included in the overall context. There is a good chance that this will happen. The growing use of mobile phones and the need for quicker and safer financial transactions are only two of the several variables that are aggravating this issue. This problem is also exacerbated by a number of additional reasons. Using mobile payment systems is crucial in an environment where many people are concerned about the situation's safety and logistics. This is due to the fact that mobile payments enable both standard commercial transactions and money transfers to one's home nation. This is the rationale for the growing popularity of mobile payments.

## 2.4 Environment

Abhinav, K. A., and 2020 [11] in particular provide an explanation of the setting in which the model platform functions. As mentioned in this definition, the scenario including the technology platform is called the model platform environment. This context specifically discusses the model platform's environment setup as the specific condition under discussion. To put it another way, this is because the technological platform is an integral part of the scenario's overall design. This clarifies some of the reasons for this. It is stated in the text that this is one of the numerous issues that are covered, and that both of these authors have concurrently tackled it in their works. Many additional topics are included in the book as well. By mentioning the technical elements necessary for the preservation of one's security and privacy, it is possible to utilise the technological environment as an example. It is possible to do this action. This is an option that might be used. However, there is a choice that might be made. However, there is an option available to you that you may take advantage of. In the most basic words imaginable, what I am doing at this moment is doing a number of experiments on my own thought process. I'm working on this thing right now. When there is a greater possibility of a security or privacy breach, MP users are more likely to have a higher level of confidence in the service. This is due to the increased likelihood of service compromise. The reason for this is that customers are more inclined to think highly of the service. This is because using the service increases the likelihood that there will be a security breach. This is the cause of this. This is especially the case when there is a higher chance of a service interruption. This is the cause of this. The degree of confidence that people have in the services being provided has risen as a direct result of this. The likelihood of a security breach occurring at this exact moment will be higher than it has ever been in the organization's history. This will be the moment when the organisation is most likely to become susceptible. In the next years, this will be the situation. This is so due to the fact that there is a bidirectional link between the degrees of risk and trust. This phenomena may be attributed to this link. This is the rationale for the way that events play out. This specific situation exists because of the existence of this specific circumstance. Consequently, this specific scenario exists. It is possible to conclude that there is a significant correlation between the level of environmental risk and people's confidence in the use of new technology. This is a possible conclusion to draw. It's possible for someone to come to this decision on their own. After considering all of the data that has been provided in this article so far, this is the conclusion that can be drawn. One interpretation of this is the conclusion,

which is the deduction that may be made from it. This leads one to the following conclusion. You will be presented with an example of an inference that may be drawn from the statement that was just given to you in the paragraphs that will come after. You will discover this example of inference. It is important to acknowledge that this is the case, given that the evidence provided in this research supports the conclusion reached by Tzou and Lu (2009).

## **2.5 Technology Adoption Theories**

Theories of technology adoption provide conceptual frameworks that serve to explain the reasons and processes behind the adoption of new technologies. According to Everett Rogers's Diffusion of Innovations (DOI) theory, the process by which an invention spreads across a community is described. The idea classifies adopters into groups such as innovators, early adopters, and laggards by dividing them into several categories. Considerations such as relative benefit, compatibility, complexity, trialability, and observability are brought to light by this assessment. The Technology Acceptance Model (TAM), which was created by Davis, places an emphasis on perceived ease of use and perceived utility as main drivers of technology adoption. The TAM suggests that these perceptions impact attitudes and intentions with regard to the utilisation of technology. The Unified Theory of Acceptance and Use of Technology (UTAUT), which was proposed by Venkatesh and their colleagues, incorporates components from a number of different models. These models include social influence, facilitating conditions, performance expectancy, and effort expectancy. The purpose of this theory is to forecast user intentions and behaviours in relation to the adoption of technology. All of these ideas, when taken together, provide light on the complex processes that are responsible for the adoption of technology.

## **2.6 Technology Acceptance Model**

Davis came up with the concept in 1989 in order to forecast and explain how people use information technology. The model made significant use of the notion of reasoned action as a source of inspiration. The Technology Acceptance Model (TAM) asserts that the behavioural intention that defines usage and attitude towards technology all have an impact on this use. Furthermore, according to DOI (Shaikh and Karjaluoto, 2015), the perceived simplicity and usefulness of technology has a major impact on an individual's attitude towards the utilisation of technology [12]. The TAM model has shown high levels of robustness in the study of technological adoption behaviour, as indicated by the empirical tests that were carried out on the model. According to the idea, there are two characteristics that those who embrace new technology need to take into consideration before releasing it to the market. Both the perceived ease of use and the utility of a system are included among the features.

In order to improve the pace of technology adoption, TAM reiterates the point that DOI made on the significance of interface design. According to Shaikh and Karjaluoto (2015), TAM takes into account the perceived ease of use of a system when assessing technology [13]. Studies have shown that the usability of a system is a significant factor in deciding whether or not it is acceptable for usage. Consequently, application developers ensure that the programme is easy to use by evaluating several aspects of the product, including its operations, layout, and design capabilities. By raising awareness, prospective users of technology are able to guarantee that they have a thorough understanding of the characteristics of the system. As a result, the adoption rate is increased since the customers were already aware of how to utilise the system and the advantages it offers.

TAM highlights that a new innovation must have better qualities in comparison to the old system (Shaikh and Karjaluoto, 2015). This is in accordance with the perceived utility of the invention according to TAM.

As a result, those who are responsible for developing innovations are obligated to assess the influence that their creations will have on the economic and social fabric of a society. It has been established that MPS offers significant advantages in terms of speed, ease, and the reduction of geographical distance (Dahlberg et al., 2015) [14]. A greater likelihood of a favourable user acceptance relationship is associated with an application that is judged to have a high level of utility, according to the model. According to the findings of the investigation into the theories of technology adoption, the most important topic of debate is the need that MP developers must take into consideration the simplicity of use, cost, speed, and convenience of their products.

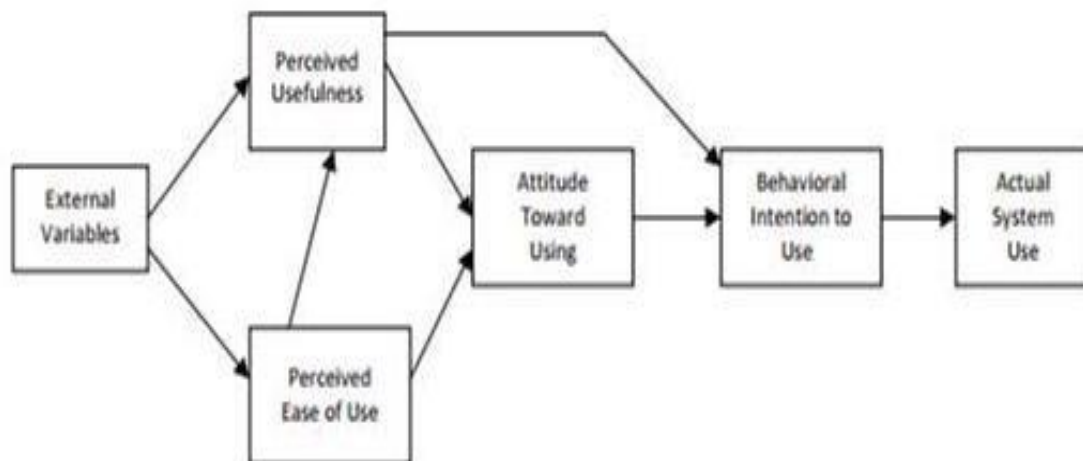


Fig.1. Model for Accepting Technology

## 2.7 Theoretical Framework

The widespread implementation of MPS is influenced by both independent and dependent factors, as shown by the theoretical framework (Delone and McLean, 2003; Dastan, 2016). TAM provides more details on the behaviorally based elements that impact MPS penetration. The model may be used in a number of ways, one of which is to forecast future customers' purchasing patterns. For example, the consumption of information systems is significantly influenced by their perceived utility and simplicity of use ( Nugroho, Yanuar, and Ari Prasetyo ,2018) [15]. Consequently, TAM's predictive capacity for technology usage and adoption intention aids in the understanding of the IT market by researchers, developers, and adopters.

Kim et al. (2010b) claim that MPS's benefits above conventional payment systems have improved daily living. The adoption rate has improved due to favourable user feedback and the customised information providing more control over personal finances. When compared to other electronic payment methods like wire transfers, the MPS is more mobile. Innovativeness, mobility, MPS knowledge, compatibility, perceived utility and simplicity of use, reachability, and convenience were shown to have a significant impact on MP adoption, according to a research conducted in Somalia (Ibid.).

The use of TAM as a foundation for guiding methodology, results, and debate in this thesis was spurred by the factor analysis in the effect of MP adoption. The study's model is summed up in Figure 2.

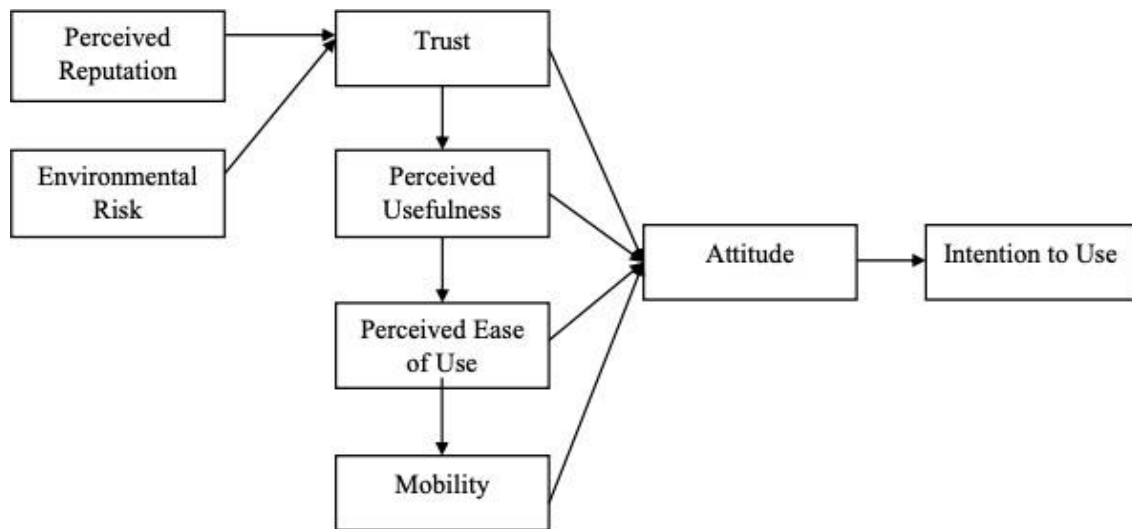


Fig.2. Research Model

## **CHAPTER 3**

### **Research Methodology**

This chapter explores the technique used to undertake data collecting. The discussion covers the study design, methodology, data reliability and validity, and ethical issues.

#### **3.1 Research Design**

The study used a mixed data gathering strategy that included qualitative structured interviews in addition to secondary data. Ten peer-reviewed publications from the Science Direct and EBSCOhost databases were considered in the secondary data extraction. Through critical analysis and integration of results from several papers, the review aims to explore issues. The studies that address MPS and the adoption of IT are considered to be of high quality and are relevant. In contrast to a single empirical investigation, it is used to address more general problems (Cronin et al., 2018) [16]. The study makes use of the logical reasoning to comprehend the factors that affect MPS adoption rates. The methodology guarantees that the information gathered pertains to the subject of the top-down procedure in order to arrive at a certain outcome.

The arguments made in qualitative research provide a distinct viewpoint on the development of MPS acceptance and implementation. Moreover, by identifying research gaps in the body of existing literature, the methodology guarantees that the study shapes the path of subsequent investigations. Therefore, secondary data from publications on the use of MPS is the main source of data gathering. The study's methodology was directed by objectives that were mapped based on recognizing published MPS journals, the study's aim, the methodological approach, and—above all—the research's relevance. The semi-structured interviews were used to evaluate the secondary data that was obtained from peer-reviewed publications.

Figure 3 depicts a four-stage methodology used in the study's investigation. The steps guaranteed the achievement of research objectivity. The research subject for the thesis was chosen in order to investigate and pinpoint the deficiency in existing studies. The study design encompasses the paradigm, including the goal, results, and delimitation. However, data collecting encompasses the use of both qualitative and quantitative secondary data sources. Additionally, the original data was gathered in order to evaluate the conclusions drawn from the peer-reviewed publications. The analysis included both empirical data and theoretical discussions within the accepted framework of the research.

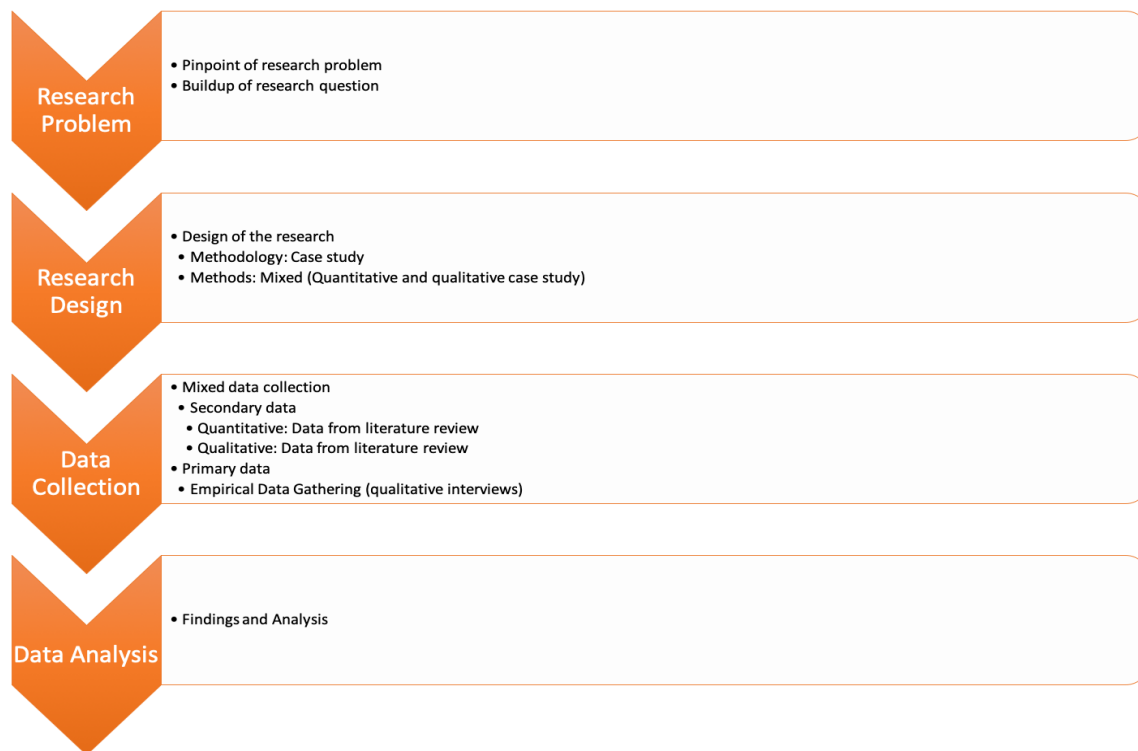


Fig.3. Methodology Design

### 3.2 Research Process

It is expected that the process of selecting and gathering information from papers and speeches that have been submitted for peer review will get the bulk of the attention that is devoted to this specific issue. This emphasis will mostly address research methodology. The procedure will be the main focus of attention at this point. With regard to this particular subject, the focus of the majority of attention will be on this specific component of the problem under discussion. To be more precise, the main focus of the attention that will be paid to this portion of the scenario will be this specific component, which will get the majority of the attention that is directed towards this area. Now that we have reached this stage of the process, we will go on to the next section, where we will be concentrating on the subject that is now being discussed. After this particular section concludes, the remainder of the section will devote the most of its attention to this segment, which will serve as the primary topic of study going forward. Furthermore, the section will focus its emphasis on a certain subject as its main theme throughout its whole. For the avoidance of doubt, this specific topic will be thoroughly examined and addressed in relation to the limitations of this section. The purpose of this decision was to provide more detail. One day in the future, this

specific situation will be the one to prevail. An explanatory approach is used in the study's methodology to facilitate data collection, results analysis, and discussion of the findings in order to reach a conclusion about the discoveries that were previously discussed. This specific component is accountable not only for doing the fundamental checks but also for performing the critical checks that are required to confirm the authenticity of the information. Assuming this specific responsibility is a difficult undertaking. This is being done now in order to make sure that the data that was gathered is accurate and beneficial to the problem that is currently being worked on. This is the rationale for the timing of this. This is the logic that guides the choice to do this action. We will provide you this guarantee in order to fulfil our goal of making sure the content is somewhat usable, and we will do this by making it available to you. Along with making sure the content is of the greatest calibre, we would also want to draw your attention to the fact that this is something we would like to concentrate on. This course of action is being carried out with the goal of achieving the anticipated result in order to streamline the process of evaluating and disseminating the completed findings, which has been done. This action plan is now being put into effect. It has been shown that this strategy has been successful in achieving its objective. I am taking the necessary steps to accomplish the tasks at hand in order to properly meet my responsibilities, thus I am doing this. The goal that is meant to be accomplished as a consequence of this technique is the elimination of processes that are not essential to the operation of the business. This approach is now being implemented as a result of this strategy, which is presently being implemented. There were many instances throughout the talks when either support or criticism was expressed, even though the book study was the one who provided the great majority of the material that it addressed. These events took place in a multitude of ways. These events transpired in a multitude of unique ways. Everyone, without exception, has to be made aware of the reality that this really happened despite the fact that the book study served as the main source for the majority of the material. It is essential that this matter to be brought and their notice initially also if it is to be well much enough managed.

### 3.2.1 Literature Review of Quantitative and Qualitative Data

The search was conducted using the databases Science Direct and EBSCOhost in order to locate the academic publications and journals that were used for the study. "Mobile payment," "mobile payment system," "mobile payment adoption," and "factors affecting adoption rate" are some of the terms that are included. By limiting the time period of the article to no more than ten years, the search results from these databases were filtered in order to find the articles that were pertinent to the topic. A selection of around fifty publications was made for the purpose of conducting a more in-depth examination on their relation to the research subject. The papers that were deemed to be the most relevant were picked after a cursory examination of the abstracts of the selected publications. According to Oumer Kerar (2019), [17] the relevance criterion required the use of papers that had the maximum number of citations, all of which contributed to a rise in the trustworthiness of the data. Also, in order to minimize bias, the article's concentrate on the elements that were taken into consideration in the TAM was used, although to a limited extent. Within the scope of the study, a comprehensive literature evaluation was conducted on a total of 10 different things. The information shown in Table 1 is sorted alphabetically, with the author(s), year of publication, and title included after each entry.

**Table 1: Synopsis of Peer-Reviewed Articles**

Author(s) & Year	Title
Beck et al. (2018)	Finance, development, and payment instruments.
Dahlberg et al. (2015)	A critical analysis of studies on mobile payments
Guo & Bouwman (2016)	An analytical framework for an mobile payment ecosystem: A merchant's perspective.
Hedman & Henningson (2015)	The new normal: Market cooperation in the mobile payments ecosystem.
Johnson et al. (2018)	Limitations to the rapid adoption of mobile payment services: Understanding the impact of privacy risk on mobile payment services.
Liébana-Cabanillas & Lara-Rubio (2017)	Predictive and explanatory modelling regarding the adoption of mobile payment systems.

Liébana-Cabanillas, Sánchez-Fernández & Muñoz-Leiva (2014)	The moderating effect of experience in the adoption of mobile payment tools in Virtual Social Networks: The mobile payment Acceptance Model in Virtual Social Networks (MPAM-VSN).
Mun et al. (2017)	Millennials' perception on mobile payment services in somalia
Ndung'u (2018)	The M-Pesa Technological Revolution for Financial Services in Kenya: A Platform for Financial Inclusion.
Vasselin (2018)	The Competition Between Cash and Mobile Payments in Markets with Mobile Partnerships A Monetary Search Model Point of View.

### 3.2.2 Data Gathering

The purpose of the interview questions was to get first-hand information about MP in Somalia. The interview question mentioned a few things that affect MPS adoption. For example, their thoughts on transaction security, privacy and confidentiality of personal information, utility, simplicity of use, and convenience. It was also requested of the respondents to assess the experience of people who had employed the remedy. To make sure that the relationship between secondary and primary data is formed as effectively as possible, the semi-structured questions were matched with the theoretical framework (Englander, 2012) [18]. In order to get as much pertinent information from respondents as possible, a combination of open-ended and closed-ended questions was used to gather the data.

Random selection was used to choose the interview subjects from the general population. Twenty-five interviews were included in the research sample, and they answered semi-structured questions. There was a mix of people in the random pick who were at least 18 years old. The interview was performed at a time that worked for the interviewees, who were identified on a different day (Englander, 2012). Additionally, the quantity of answers to each question varies. Interviewees have the choice to omit questions they were not acquainted with. To ensure variety in the data obtained, the interviews were conducted in public settings such shopping centers, malls, colleges, and other social events. Since public spaces are accessible to everybody, the opinions of a sampled person are representative of a wider community (Ibid.).

Coding of Interviews

The identification of shared concepts and those in distinct dimensions was the final stage of the analytical procedures. The researchers were able to effectively organize the interview responses based on their perspectives on MPS as a result of the identification. Subsequently, the interviews were coded to facilitate identification, which facilitated the development of a conceptual framework and the formulation of a conclusion (Houghton et al., 2013) [19]. Table 2 displays the codification process that was implemented to isolate the interview responses, including both general and specific codes.

**Table 2: Interview Coding**

<b>General Codes</b>	<b>Specific Codes</b>
Consumer adoption	Technological infrastructure
Environmental risk	Interoperability/ intractability of MPS
Perceived reputation	Security
Perceived trust	Privacy and confidentiality of consumer information
Mobility	Government policies and regulation
Perceived usefulness	Frauds/hacking
Perceived ease of use	Costs
Consumer attitude and intention to use	Consumer literacy and financial knowledge
	Culture
	Consumer behaviour
	Service popularity

To facilitate simple understanding and summarization of the participants' perspectives, the interview replies were tallied. To calculate proportions in terms of percentages, an excel sheet was used to tabulate data from the closed-ended and direct questions. The material gathered from primary sources was critical in nature and provided important insights that influence the acceptance of MPS either directly or indirectly.

### **3.2.3 Secondary Data Gathering**

A certain process was used to create a more successful plan for gathering information from selected secondary sources. Houghton et al. (2013) state that data from these secondary sources was successfully gathered by using the coding approach. As shown in Table 3, the approach included developing a dimensional analysis guideline that included eleven essential features, providing a basic foundation for assessing the selected materials' quality.

In order to properly classify qualitative data and find themes, patterns, and insights, this coding methodology is necessary. Researchers are able to do a more thorough study and interpretation of the data by effectively managing and organizing vast amounts of information. Researchers may find links between many factors and make relevant findings by coding data from secondary sources.

The purpose of the dimensions analysis guideline was to provide an organized system for evaluating the caliber of the chosen materials. The validity, relevance, and dependability of the secondary sources were all determined by these eleven criteria. Throughout the whole study process, consistency and rigor were guaranteed by this uniform method to data review.

The information's dependability and trustworthiness, as well as the writers' credentials and the publications' standing, were evaluated in order to determine the sources' credibility. The degree to which the data directly addressed the research questions and hypotheses was the criterion for determining relevance, which was based on how closely the information related to the study subject and aims. This thorough method of assessing secondary data improves the research's overall quality and validity and offers a solid basis for deriving significant findings and making defensible recommendations (Weathington, B. L, 2010) [20].

**Table 3: Study of the Skimming Criteria**

<b>Variable of Interest</b>	<b>Denotation</b>
Methodology Employed	Qualitative and quantitative research. Additionally, consider the data collecting method (primary and secondary). The approach should highlight strengths in generating solutions to the thesis research topic.
Setting	The geographical area covered by the researcher(s). The information provided should cover a major area of concerns, i.e. Somalia, Kenya and other areas of interest.
Problem Statement	The motivation and goals achieved in the study which should be on issues based on MP adoption.
Stakeholders	The necessitating actors of technology. For instance, institutions that are responsible for mobile payment adoption rate.
IT infrastructures in MP method	The MP facility's IT infrastructure is discussed in the article. For example, mobile phone use among the populace, network coverage, and system security. The variables ought to affect MP adoption either directly or indirectly.
MP services	The kinds of services that MP technology offers. For example, loans and transaction payments that affect adoption
	contains an article opinion on how MPS affects the social and economic well-being of users and the society at general..
Legal environment	The legislative structure in place to control MPS (money laundering and hacking legislation, for example).
Limiting factors	These are the impediments to MPS adoption that the study found. For example, intricacy, anxiety about losing private information, etc.
Relevant findings	A researcher assesses the outcomes of every study variable that is important to the emergence of a conclusion. The conclusions have to be focused on TAM factors.
Conclusion	The section summarises articles findings and shows what researcher accomplished. The conclusion provides information on answering the research question and developing the conclusion of this thesis.

A strategy known as a priori coding was used in order to acquire pertinent data via the utilization of TAM variables. There was a direct or indirect connection between the factors that were examined and the technological environment, reputation, ease of use, mobility, perceived utility, perceived trust, attitude, and intention to use. Understanding the elements that influence the adoption of MP by consumers is facilitated by the procedure. The manner in which the memo was filled out throughout the time period of data collection is shown in Table 4. In order to build a precise link between shared and divergent perspectives throughout the process of data collecting, the important results for the thesis were filled in on the blank sections (Houghton et al., 2013). Using the variables that are shown in figure 1, the data were sorted into the appropriate categories.

**Table 4: Record Coding Standards**

<b>General Codes</b>	<b>Particular Codes</b>	<b>Article(s)</b>	<b>Key Findings</b>
Environment	Technological aspect Integrating a different system, such a point of sale system. Financial deception Risks to privacy and security Rules and policies of the government		
Reputation	tactics used by providers (customer-centered) Popularity of services Keep Knowledge Secure Security and confidentiality		
Perceived trust	Reputation Vendor status Institutional environment Public image Credibility of information in The public domain		
Perceived Usefulness	Consumer experience Extent of societal use Convenience		
Perceived Ease of Use & Mobility	Course of study or procedure Technology Interactivity and Dependability Network coverage and setup Safety		
Attitude & Intention of Use	Consumer behavior in culture The MPS Transaction fee's public information		

By using the aforementioned criteria to analyze secondary sources of data, the researcher was able to optimize the usefulness of every article. This extensive research included comparing

the results of many studies, marking important points and arguments, and critically assessing each source's reliability and applicability.

The connection between the findings and the opinions of several writers was also established in large part by the classification of crucial characteristics in each article. This procedure included determining the primary factors that affected the study question, classifying them according to their attributes, and examining how these variables interacted with one another.

asserts that since it lessens bias, the group selected for study has a favorable link with the caliber of results. The researcher was able to get more reliable and broadly applicable results by carefully choosing a representative sample that fairly represented the greater population. This required making sure the sample size was sufficient to reach statistical significance and taking into account sample variety to represent a broad range of opinions.

The primary difficulties were handled effectively and as simply as feasible thanks to the coding of secondary data and interview transcripts. Creating an organized coding system to classify data according to themes and subjects, allocating codes to particular data segments, and examining trends to find recurrent themes and insights were all part of this approach. By organizing disparate but related concepts into broad and detailed codes, a particular issue was effectively addressed and a thorough understanding of the study topic was provided. According to Houghton et al. (2013), the dual coding technique enables researchers to comprehensively study all pertinent parts of the issue by capturing both particular details and general patterns.

### **3.3 Reliability and Validity**

The ability of the research to get secondary data from publications that were subjected to peer review allowed it to be both authentic and dependable (Bowen, 2009) [21]. This was made possible by the fact that the data was collected from a variety of sources. This was made possible by an analysis of the previously published material conducted by other researchers in the field. It was feasible to see that this possibility existed given the conditions. Consequently, the research was successful in achieving its objective of reducing the variation seen in following analyses as much as was practically possible. This was made possible by the previously mentioned situation. To accomplish the goal of minimising the degree of ambiguity that existed in the collected data, a thorough analysis of the themes and how they relate to the current study was conducted as part of the research project. The purpose of this action was to mitigate the degree of uncertainty inherent in the gathered data. This action was taken with the goal of achieving the aim of lessening the degree of uncertainty that existed in

the situation. The purpose of this activity was to accomplish the aim of lowering the level of ambiguity in the data, and it was completed with that notion in mind. Conversely, the core data was gathered using totally subjective methods based on arbitrary standards. This was done to ensure that the data collected was as accurate as possible and to minimise the possibility that bias occurred throughout the procedure. This was done to make sure the information was collected. A random approach was used to choose the sample population in order to guarantee that the information collected was shared in an appropriate manner. This was done to make sure that the material was distributed in a way that satisfied everyone. The chance that this may happen was made possible throughout the sample population assembly procedure. The random selection procedure was used to ensure that the collected data would provide a more complete image of the whole population (Ibid). This was carried out to guarantee the accuracy of the data collecting. The trustworthiness of the study was greatly impacted by this constraint as the empirical data collection was restricted to Hargeisa specifically. This restriction on data collection during the inquiry had a substantial negative influence on the study's dependability. It is conceivable that the existence of Hargeisa may have anything to do with the phenomenon's occurrence since Hargeisa was the only place where the data was gathered. Nonetheless, the findings' reliability is maintained even while the importance of the results is diminished by the use of random selection.

All of these actions are taken without compromising the reliability of the outcomes.

It is noteworthy that the augmentation of the validity of the statistics derived from the study was largely influenced by the growth of both internal and external validity. Because of this particular feature, the argument's legitimacy enhanced. By using these two distinct levels of validity, this job could be finished with success. To achieve the aim of establishing a link between the theoretical explanation and the investigation's findings, internal validity was used. By using the phrase in a way that guarantees a connection between the two, this goal was achieved. This was the means by which the goal was reached. It was possible to complete this project effectively because of the improvement that was attained as a consequence of it. Included in the research data was an analysis of a case study, the purpose of which was to affirm the relevance of the research by validating it from the viewpoint of someone who did not participate in the experiment (Ibid). The purpose of the interview was to help develop a comprehensive understanding of MP adoption, and over the course of the talk, information obtained from first-hand sources was supplied. The process of creating an understanding is streamlined and made easier by including this knowledge into the process.

There is a chance that bias will exist to some extent when it comes to choosing the interview comments that are most pertinent to the section on the results. This is a scenario that might happen. This is the cause of this, and it stems from the potential for prejudice to exist to some extent.

### **3.4 Ethical Aspects**

The Economic and Social Research Council (ESRC, n.d.) was the body responsible for creating the ethical framework that was taken into account for carrying out the inquiry throughout this study. The framework was considered during the whole duration of the research, at every turn in the process of gathering primary and secondary data. In the process of our examination, we carried out a scientific study, and the framework in question explains six ideas that formed the basis of our analysis. Finding works that have been authored by other authors and using the proper citation information to identify them is one of the most significant challenges that are taken into account in the subject of ethics. While a number of issues are considered, this is among the most significant ones. Taking into account the importance of this component is one of the most important factors that are considered. To ensure that the authors' work is suitably linked to the source, the citation must be used. For this reason, using the reference is really vital. This line of reasoning leads to the conclusion that using citations is very relevant. The removal of the risk of plagiarism has been achieved by taking this step, which would not have happened otherwise. On the other side, the material is protected against the risk of being plagiarised. Furthermore, the citation guarantees that the reader may do further study on the original work that was referenced to get more details from the source for the goal of further scientific inquiry. This is due to the fact that the citation, which is what caused this evolution, gives credit to the original work. The significance of this added advantage cannot be overstated.

The semi-structured interviews were conducted with the aim of gathering data, and every ethical standard was taken into account at every stage of the procedure. The goal of conducting these interviews was to gather data. Because of their findings, these interviews were conducted in order to gather information on the topic under discussion. To provide context, it should be noted that the method did not capture any personal data connected in any way to the person being interviewed. This is because it was the technique's deliberate intention to provide an example. There are other cases just like this one; this is only one of many instances. "The European Social Research Council (ESRC) issued a statement declaring that the information "the information that was obtained was protected by adhering

to the highest possible standards of privacy and confidentiality" (no date was given). I appreciate your help and ask that you keep in mind the statement released by the ESRC. Every member of the public received the ideas and views of this person. It was determined that the presentation was truthful and impartial since the results were provided in a way that made sense with the content. Furthermore, the presentation that was given included the investigation's results. Within the presentation framework, the main subject of discussion was determined to be the situation of MPS in other nations, particularly Somalia. The aforementioned goal was successfully achieved by the presentation of data that underwent a comprehensive study and assessment. Using this approach, the goal of giving a more tangible example was successfully accomplished. The study project participants said throughout the interview that they did not intend to be compelled in any way to participate in the investigation. They did not anticipate that they would be subjected to any kind of force or pressure when making their choices. Upon agreeing to participate in the interview, each and every one of the people who provided their consent also did not have this kind of particular goal in mind.

## CHAPTER 4

### Data Analysis

Data from studies with peer review and the interview are presented in this chapter. The conceptual framework is used to categorize the outcome. The information gathered covers the following subjects: MP innovation uptake is influenced by perceptions of reputation, environment, trust, utility, simplicity of use, and mobility, as well as attitude and intention. Data from studies with peer review and the interview are presented in this chapter. The conceptual framework is used to categorize the outcome. The information gathered covers the following subjects: MP innovation uptake is influenced by perceptions of reputation, environment, trust, utility, simplicity of use, and mobility, as well as attitude and intention to get started with.

#### 4.1 Perceived Reputation

Courage Simon Kofi, (2019) [22] as well as the Strategic seller orientation significantly impacts on customers perceived reputation. The customer-centric strategies involve the entity being proactively associated with the detection of the issues customers have as well as providing a fix to rectify it. The investigation of the authors found significant increases in the retail and service industries when enriched customer-centric efforts

It concluded that, in general, the security concerns on part of technology providers have an important influence on technology adoption. Also argue that there is a very strong positive association between reputation and security breach containment. A trust will build a long-term line and give growth to reputation. Security was rated as very important by 64% of those surveyed in the interview round. In contrast, 12% of respondents said that it was "neutral" and "essential." "Very unessential" and "unessential" account for 4% and 8%, respectively. Reputation of the firm is a major factor in MP decisions, according to 73.3% of respondents to the reputation inquiry. Figure 6 displays respondents' opinions about the significance of security in transactions.

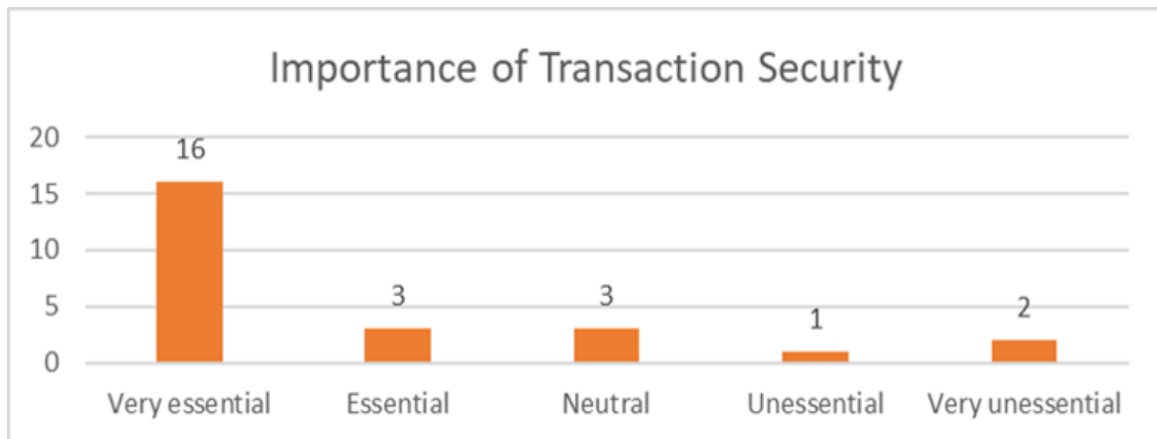


Fig.4.Importance of Transaction Security

As to Gupta (2014), [23] trust is significantly impacted by the confidentiality and privacy of the MP process. In order to guarantee that perceived danger and distrust are decreased, he goes on to say that MP technology should provide consumers control over their transactions. As a consequence, the organization providing MP services has to protect user data and close any holes in the system that might lead to data loss. Furthermore, 44% of those surveyed said that strong privacy and secrecy were "very essential" for MPS. Additionally, it was shown that 40% and 12%, respectively, thought it was neutral and necessary. A summary of the comments about the significance of personal information privacy and confidentiality.

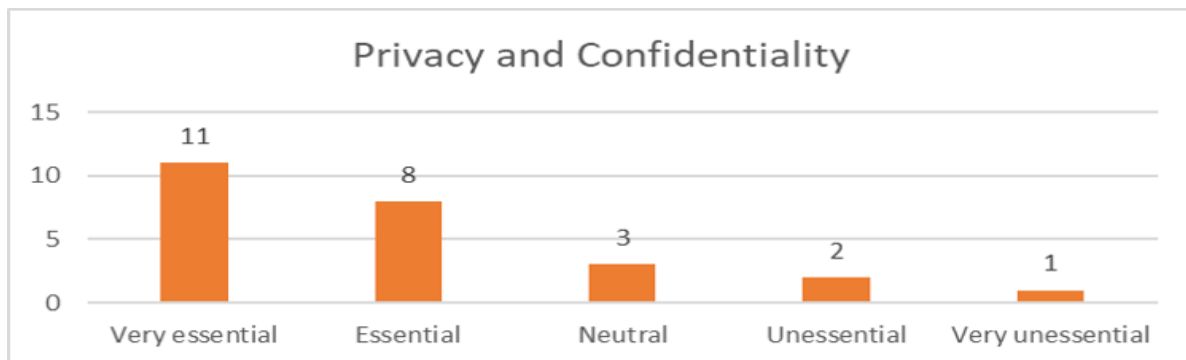


Fig.5.Importance of Privacy and Confidentiality

The research conducted by Beck et al. (2018) says that Safaricom, the company that runs M-Pesa, has a great reputation for providing mobile services. The story says that the M-Pesa app helps more than 85% of Kenyan households save money. The fact that the institution was given money shows that its image and trustworthiness have grown over time. From the 16 people who were asked what MP service they use, 11 insisted on ZAAD, which was found in

the interview. The main reason was that people trusted and knew about it. The company has a great reputation for being dependable, easy to use, safe, and affordable. People believe that their savings are safe with Safaricom because of its good name. However, the fact that ZAAD is known for sending and receiving cash instantly between sender and receiver makes customers trust the service. This is why ZAAD and M-Pesa's image is so important for building trust between the company and its users.

Sleiman, Kamal Abubker Abraham, et al. (2021) [24], the study found that trust in technology usage is affected by security. Based on the conversation, it was clear that most of the people who said security was the most important thing to them were loyal to a certain product. Also, 76% of those surveyed said that transaction security, privacy, and confidentiality were "very essential" or "essential." Also, 73% said they would stay with the same providers because they trust the protection.

#### **4.2 Environment**

The technological environment refers to the state of the technology base (Vasselin, 2018). Technology's risks and cost of not being useful have a direct effect on how quickly it is adopted. As an example, the private and security features show a technological setting. The image of an organization is a bigger factor in getting more people to join. Sixty-eight percent of the people who were interviewed said they use the MP app for their daily tasks. Figures reveal that the setting made makes it possible for MPS to be properly put into place. Because of this, environmental risk is strongly linked to child trust.

The data collected about the setting or business ecosystem shows that MP service providers should focus on making a safe system that protects their clients' privacy. Criminals and other actors should not be able to trick people with little knowledge, so rules need to be put in place finally. The government has a big part to play in making it more long-lasting, as shown in the interview answer. Also, 94% of those surveyed say again that a safe MP setting is a big part of why they made their choice. [24]"It matters because it gives a sense of security," said one of the people interviewed. One of the people interviewed, on the other hand, says, "It is a "open market," and the government doesn't have much to say about it." People will use it if they want to. It is also important for the government to be involved in making and enforcing rules that support technological progress. Besides that, the government can also help with spending and new ideas.

Johnson et al. (2018) found that the rate at which people adopted new technology was related to how much risk they thought there was to their privacy and security. How users feel about MPS is strongly affected by how private and safe the payment system is.

The writers also found that people's fear of losing money and unwillingness to take risks have slowed down the spread of MP. "It matters because it gives a sense of security," said one of the people interviewed.

According to the study by Sleiman, Kamal Abubker Abraham, et al. (2021) [24] customers give the company's environment a lot of thought. People are much more likely to use a site that lets free providers or businesses join. Sleiman, Kamal Abubker Abraham, et al. (2021) say that systems that can connect to other places, like POS machines, SIM cards, and phones that use NFC, are called "integrated." The interview results showed that most of the people who were asked thought that convenience was a "very essential" or "essential" feature. Adding MP to the standard system to make it easier to use led to a higher rate of usage.

Figure 6 depicts the respondents' opinions about MP convenience.

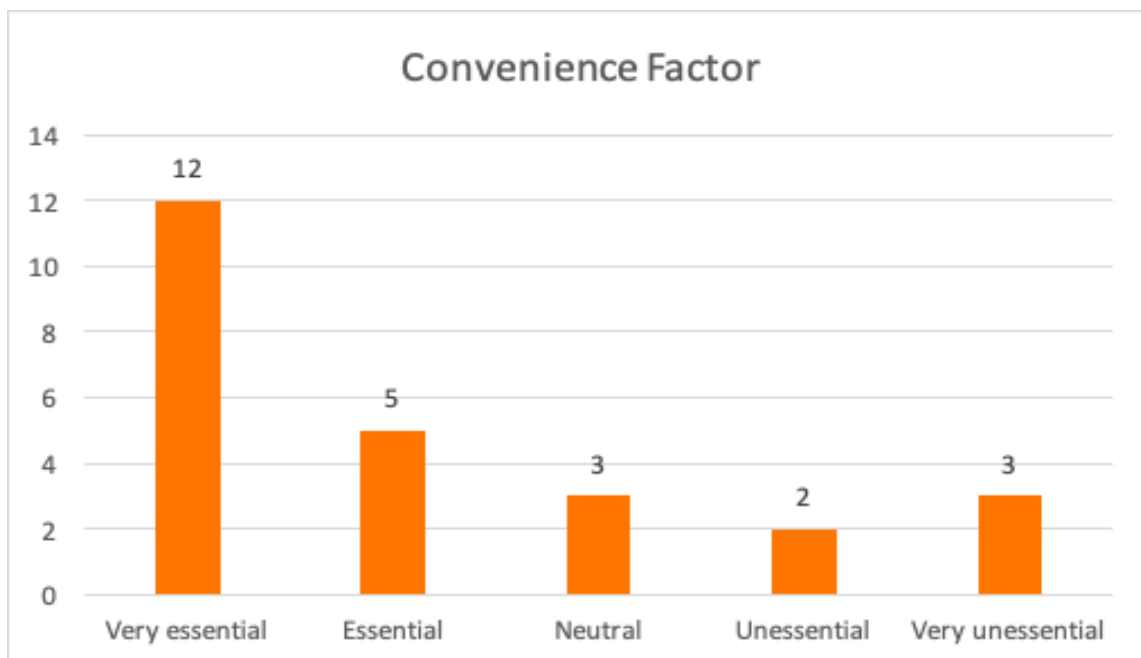


Fig.6.Importance of Convenience

Consequently, the pace at which MPS are adopted is greatly influenced by government policies and regulations. It has a direct impact on the system's innovation, security, and

consumer protection framework environments Sleiman, Kamal Abubker Abraham, et al. (2021) For example, the People's Bank of Somalia, the Somali Banking Regulatory Commission, and the Ministry of Industry and Information Technology are all used by Somalis.

Ndung'u (2018) [25]. Claims that regulations governing MPS were implemented by the Kenyan government via the Central Bank of Kenya. The organization recognizes that the MPS is not a complete financial or telecommunications entity due to some special characteristics. According to Ndung'u (2018), digital money transfers and financial inclusion have greatly benefited society. The efficacy of "Anti-Money Laundering and Combating Financing of Terrorist" has been enhanced by the digital financial platform (Ndung'u, 2018). 82% of the participants in the interview said they thought the government had a major influence in the adoption of MPs. The creation and implementation of rules and regulations that control MP transactions, such as the guidelines for prosecuting MP fraud and hacking, are the most important issues. As a result, attitudes and intentions to use the solution are more influenced by the environment that the MPS platform creates.

### **4.3 Perceived Trust**

An examination of the Kenyan M-Pesa platform in 2018 reveals that suppliers have elevated their game and gained the confidence of their users. [25]. The M-Pesa platform allows its users to apply for loans without needing collateral since it has faith in and reputation for them. Customers are encouraged to utilize the service often to trade, save, or borrow loans. As a result, increasing the level of trust between MP providers and customers is essential to raising the adoption rate. The implications of stringent credit screening have a significant positive impact on the nation's economic growth. According to an article by Beck et al. (2018), statistical and network discrimination in loan services has impacted Zimbabwe's economic growth. Easy mobile loans up to \$700 USD contribute to the economic prosperity of their Kenyan counterparts. Consequently, if the MP adoption rate is to rise and more transactions are made, trust should be a two-way street.

According to Dahlberg et al.'s (2015) [26]. Systematic review research, security and trust were prioritized in the majority of searches published after 2006. The two variables were thought to be crucial for MP acceptance. The paper suggested more research on security and trust mechanisms since they are crucial to the idea of an MP service. The paper attests to the fact that the effects of confidence in MPS are extensive and will need more investigations to

completely explore. For example, there are four ways to look at the influence of confidence in MPS: via the lens of technological components, institutional context, mobile carrier, and MP vendor. The four elements collaborate to affect MP adoption.

To found that customers' perceptions of trust were more influenced by external factors, particularly for those with less expertise. According to the research, consumers who had more experience with MP had a greater coefficient with trust ( $b= 0.413, p < 0.001$ ) than those who had less experience ( $b= 0.114, p < 0.001$ ). The research of Dahlberg et al. (2015), [26] which found that trust is a key component of a greater MPS adoption rate, is supported by the article's results on the impact of trust from the outside. For example, the verbal or online comments made about the MPS. In order to favorably impact the adoption of their payment solutions, MP providers should concentrate on cultivating a favorable public image.

The results of the interview showed that word-of-mouth recommendations and the corporate website were where most MP users got their information. According to the figures, 27% and 37% of the respondents, respectively, had learned about MP material online and via word-of-mouth. It's crucial for the credibility to utilize it correctly and comprehend what you are working with, according to one interviewee. Statistics about the sources from which respondents learned about MPS are shown in Figure 7.

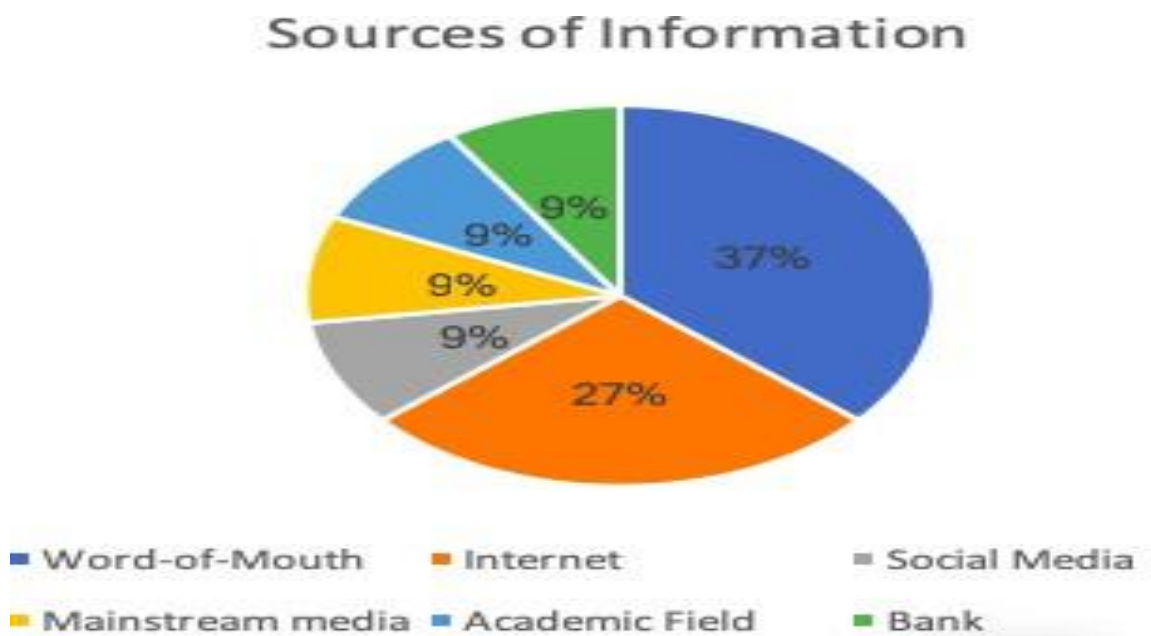


Fig.7. Sources of MP Information

#### 4.4 Perceived Ease of Use and Mobility

Compared to the conventional approach, MP technology has revolutionized the economy's money transaction, according to Harb et al. (2008) [27]. MPS has greatly and admirably increased mobility and convenience. The MPS literature states that users' capacity to execute transactions on the platform at any time or location has been largely credited with effective rules in many cases. For example, the person has more mobility than with conventional payment methods since they can make payments without physically moving.

The collection of empirical data revealed that the majority of interview subjects regarded simplicity of use as quite important. The time needed to become proficient with the technology and assess its advantages was the main issue raised. The respondent, who is over 50, believes that younger people find innovation simple since they have grown up with digital financial instruments. The interview also mentioned the clear connection between convenience and simplicity of usage. The person who made the observation expressed the same opinion about the innovation's convenience in response to its simplicity of use. The results of the interviews support Harb et al.'s (2008) claim that a technology's ease of use is dependent on its convenience and the amount of time it takes a user to assess its value. "I see the pros, it's faster and your wallet is concentrated to your phone," an interviewee says. However, you must be familiar with utilizing mobile payments. Consequently, one of the key factors impacting the acceptance of MP innovation is the amount of time it takes for a prospective user to have the information needed to utilize it. The interviewee's reaction on the MPS technology's simplicity of use is shown in Figure 8.

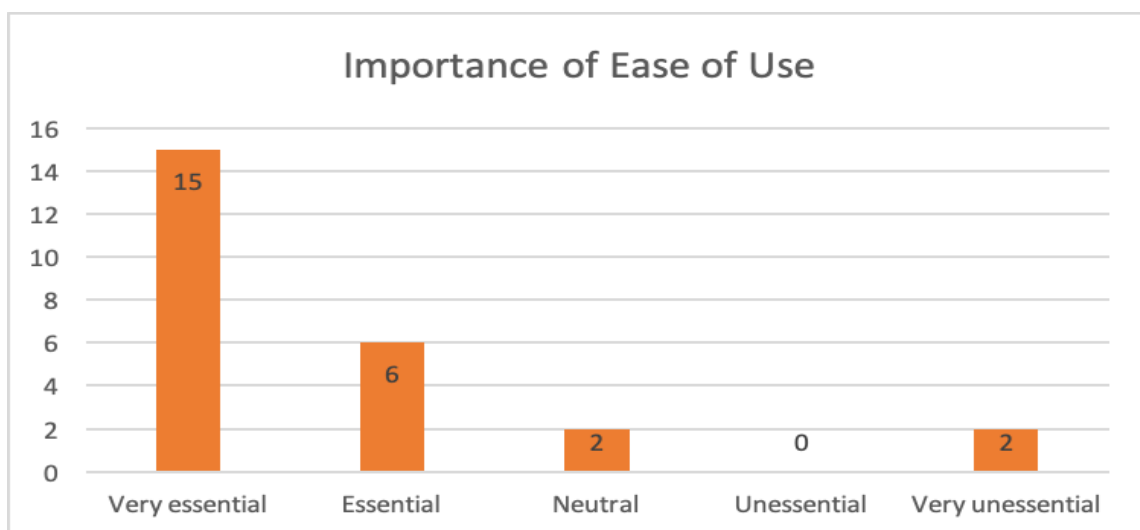


Fig.8.Importance of Ease of Use

The nature of MP technology is shown by users' capacity to perform transactions from any time or location (2018). Thus, the rate at which MPS is adopted increases with mobility. To increase adoption rates, MPS providers need to think about building network infrastructure in the regions where they operate. Perceived MPS mobility and simplicity of use are strongly correlated with dependability. According to the interview, 80% of respondents said that a service's dependability had a significant impact on their choice. "Important, most of the time, I would expect a mobile payment platform to work all the time just like my bank app does," said one of the respondents. An example of interviewee comments on service dependability is shown in Figure 9.

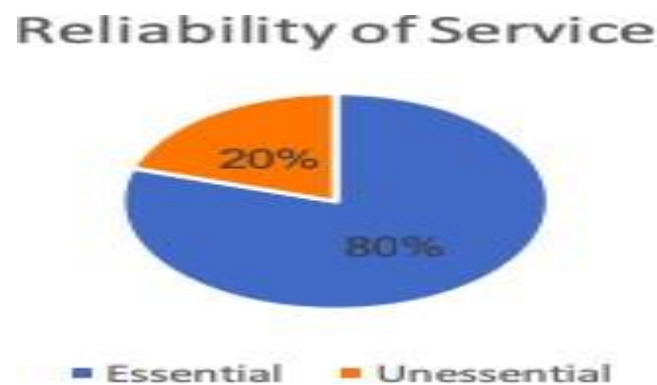


Fig.9. Importance of Reliability in MP

In the words of Johnson et al. (2018) [28] connectivity and interactive features on mobile devices have continued to advance. advancements in NFC and Radio Frequency Identification (RFID). The improvement in security, usability, and dependability brought about by the technology has contributed significantly to the increased adoption rate. Additionally, the mobility component of MPS has enhanced due to the expansion of network coverage. For example, the ability to remit money internationally via services like Wave, World Remit, TransferWise, and other MP services has been made possible by the availability of mobile networks in rural Africa. Trade has improved and money mobility has increased thanks to the smooth and quick payment option. In order to strengthen the global market, payment channels that provide better remittance and lower transaction costs must be established. Research indicates that cell phones have ingrained themselves into our daily lives. The Johnson group (2018) [28]. Describe in further detail how 4 out of 5 people shop on their phones, 75% use smartphones in physical shops, 55% have internet connectivity, and 74% use them to find their way. As a result, the MP platform's integration increases money velocity, a hallmark of healthy economic development.

Liébana-Cabanillas et al. (2014) restate the case made by Johnson et al. (2018) on how mobile phones affect our daily lives. The authors also note that the MP system has improved payment ubiquity and mobility. The article points out that instantaneous transaction payment and easier access to cash are two benefits of mobile phones. Additionally, the widespread use of mobile phones and network infrastructure has been a key driving force. The authors point out that as customers find it safe and convenient to avoid carrying cash around, MP enhances the value of retailers' products or services. The findings from the interview, which showed that mobile solutions made it easier to buy products and services, support this. Although card payments are equally capable, most individuals surveyed felt that MPS provided more security and privacy. Its popularity has been greatly aided by the mobility of currency made possible by the mobile system.

#### **4.5 Attitude and Intention to Use**

There is a clear correlation between perceived reputation and environmental danger and the attitude and desire to use. According to Mun et al. (2017) [29], the environment's risk and reputation have an impact on the technology's utility, trustworthiness, mobility, and simplicity of use. The aforementioned characteristics have a significant impact on both attitude and intention towards using technology. Assert that traders' attitudes and behavior intentions have a significant impact on how quickly MPS is adopted. According to an interview with a Chinese State-Owned Enterprise (SOE), the adoption rate is influenced by an individual's culture and mentality, which is further argued in the article.

It is the suppliers' enormous obligation to make sure that prospective customers' expectations are satisfied. According to Johnson et al. (2018) [28], there has been a favorable change in consumers' attitudes towards technology. The advent of Apple Pay and Android Pay has resulted in a significant expansion of MP infrastructure. Peer-reviewed journal review statistics and interview data indicate that MPS use has increased positively as a result of increased buyer frequency. According to one of the interviews, "I think there's a lot of information out there. They're doing a good job of promoting it. Nonetheless, businesses may communicate more effectively with customer segments that are not tech-savvy. As a consequence, the rate of MP adoption has increased steadily due to the availability of information about its advantages. Consumer attitude and desire to use are favorably impacted by a good comprehension of MPS advantages.

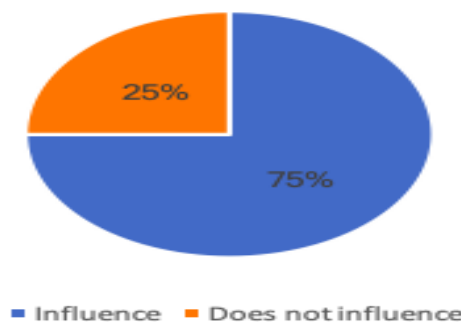
According to interview responses, 56% of respondents said that MP suppliers had not run a sufficient publicity effort. Furthermore, those who agreed that MP providers had received

enough marketing pointed out that a product's great value and simplicity of use do not need for excessive advertising. Good products proliferate via word-of-mouth and through usage of the business website as an advertising medium. One respondent said, for example, "Word of mouth is the only "education" I receive from mobile payments." Furthermore, it was clarified that MP providers should make sure businesses provide further details about The positive aspects of MPS. A person's attitude and intention to utilize are greatly influenced by the benefit's elaboration.

As a result, a prospective user's attitude and inclination to utilize the solution are greatly influenced by the MPS transaction charge. The results of the interviews show that most users research transaction fees prior to using MPS. "The old solutions take a fee, but never really gets questioned because it has been our only solution for many years," the respondent said. Higher costs on an MP platform would deter me from utilizing it.

The interviewees' responses on price as a determining factor in adoption rate are shown in Figure 10.

**Influence of Price on Adoption Rate**



**Fig.10. Influence of pricing to the adoption rate**

The conclusions of empirical research on the impact of transaction fees on MP adoption are reaffirmed by Beck et al. (2018). The authors proved that MP users had a very high threshold for transaction fees. The paper did, however, examine the expenses related to using MPS and cash. The essay demonstrates that delivery time and effort are included in the expenses of cash payments. Nevertheless, there are fees related to sending and withdrawing cash from the MPS (M-Pesa) [25] as well as time spent at the M-Pesa kiosk. MP is a highly substitutable product, as shown by the empirical and journal reviews. As a result, the providers must guarantee that the transaction fees for sending or withdrawing money are reasonable and comparable to those of other payment services.

## CHAPTER 5

### Conclusion and future work

The following part will focus on providing a detailed factual analysis to validate the conjectures supported by the evidence acquired in the previous section. Additionally, the quantifiable examination results are discussed in relation to the investigation's challenges and potential directions for future research.

#### 5.1 Answering the Research Question

The results and analysis demonstrate how crucial TAM is for analyzing and raising MPS adoption rates. The model effectively takes into account the variables that impact adoption rates as well as strategies for influencing people's attitudes and intentions to utilize the payment solution. The research reveals a significant relationship between many factors that affect consumers' attitudes and intention to use. The exact assessment and conversation provide a precise method for increasing the use of MP technology. Furthermore, the interplay of these elements delineates distinct responsibilities for adopters, developers, and the government. For example, one of the government's responsibilities in MPS is to bolster rules related to fraud and prosecution protocols. The study's immediate variables include transaction security, personal information privacy and confidentiality, simplicity of use, environmental risk, provider reputation, mobility, and MPS usefulness.

According to the report, MPS are a valuable addition to other accepted payment methods like wire transfers. MPS can address the drawbacks of conventional payment systems. According to the study findings, MPS is more mobile than conventional means. Nonetheless, as a security precaution, MPS maintains a limit on transaction quantities. The bank's payment system is incrementally innovated by the complementary purposes of MP technology. The efficiency and capabilities of the current technology (cash, wire transfer, etc.) are enhanced by the incremental innovation. Consequently, MPS does not a necessary replacement for the conventional payment mechanism, but rather an enhancement. Together, these qualities allow for smooth cash receiving and payment.

The platform lessens the likelihood that a user will need to provide more data to their system in order to be paid by a buyer. In a transaction, fewer steps mean more convenience and time savings. The simplicity of use and usability of the solution are more significantly impacted by convenience and time savings. As a result, convenience influences MPS adoption in a favorable way. To boost the acceptance rate, developers and adopters could think about

streamlining processes or improving payment technologies like "tap and pay" capabilities [30].

As a result, the study found that using a mobile phone to make payments lowers the risk of identity theft and hacking. MPS use a secret pin that only the user knows. If a user misplaces their phone, their mobile wallet is not accessible to the person who finds it. However, losing a credit or debit card may quickly result in money loss. In recent years, there have been several reports of card information theft and significant financial losses. In many circumstances, the card number, expiration year, and card verification value (CVV) are sufficient to make unauthorized online payments. Consequently, a significant factor in the acceleration of MPS acceptance has been the decrease in environmental risk associated with MPS. Nonetheless, MP providers must to bolster risk-reducing security measures, such integrating biometrics. Take speech recognition technology, for example, while transferring or withdrawing money.

When the topic of transaction price came up in the interview, most of the respondents said that it was a significant barrier to MP adoption. A product or service's price has a significant influence on its customer utility (usefulness). In a transaction, the customer who pays less fees receives a greater utility than the one who pays more. Because there are no transaction costs, ZAAD has become more and more popular, according to the interviewees. On the other hand, transaction fees in other nations, like Kenya, shown that they hinder the adoption of MPS. For data, for instance, reveals that M-Pesa charges for currency exchange transactions inside the app. Moreover, transmitting to unregistered or non-M-Pesa customers incurs a greater fee. Because transmitting is so expensive, many consumers are switching to goods from rivals or to other services like banks. To prevent clients from switching to rival payment methods or rivals, MP providers might think about lowering the transaction charge.

The link between reputation and trust was found to be fascinating by the research. Maintaining a strong position in both areas allows a firm to obtain a significant portion of the MPS market and increase solution adoption overall. It was previously said that a respected company's technology would get more traction than that of a fresh entrant into the industry. Mobile solution developers must therefore make sure that they are working with a respectable company. The plan guarantees that customers will readily trust the solution.

Using the Rodger diffusion innovation cycle, which states that innovation is at the late majority, the adoption of MPS has had favorable feedback. Convenience, security, portability, and general efficiency in receiving and making payments are all benefits of MPS, according to the study findings and discussion. Early majority adopters are thus more likely to believe that innovation has been tried and proven via hard data, relative to late majority

adopters. The remaining skeptical group, nonetheless, is still opposed to innovation adoption. Given the data of how MPS has changed payment systems, the laggards are gradually embracing innovation. In contrast to cash payments, those who have not embraced the innovation are afraid of security (hacking), privacy and secrecy of transactions, and transaction fees, according to the results and debate. In order to dispel their perception of being behind on the innovation, MP suppliers need thus figure out how to explain it to their clients. The research concluded that increasing solution adoption rate is influenced by customer education. It was found that a large number of prospective customers know very little or nothing about MPS. Those who knew better, nevertheless, expressed doubts about the providers' lack of significant promotional efforts. the primary. Potential customers' awareness of MPS's advantages was a source of PR worries. According to the report, in order to draw in more consumers, payment solution providers should emphasize flexibility, simplicity of use, and usefulness. Consequently, the conclusion is that in order to draw more people to the platform, MP suppliers had to improve their marketing. The need that consumers comprehend how they contribute to improving transaction security should also be included in education. Due to user irresponsibility, using a mobile phone for transactions creates opportunities for financial loss. As a result, more should be done to educate people against disclosing secret pins or any other private information that might undermine a transaction.

A literature review was backed by the study results and discussion. The results of the research demonstrated that there were similarities among the variables influencing the adoption of technology (MPS). As shown by empirical data and peer-reviewed journals, for example, publications that used TAM demonstrated that reputation and the environment had a significant impact on the adoption of innovation. The MPS developers and providers will greatly benefit from this research. Environmental danger, reputation, perceived utility, perceived simplicity of use, and mobility are among the characteristics that have been shown to have an impact on the adoption rate of MPS. A high adoption rate is the outcome of MP technology's alignment with these characteristics. Due to the fact that these elements influence people's attitudes regarding MPS on an individual and social level, providers and innovators should take enough care of them.

## 5.2 Future work

The examination and conclusions include suggestions that will help sellers of technology, academics, developers, and legislators increase MP use. The study suggests the following; Merchants and developers need to enhance the MP environment. The study found that the adoption rate was positively impacted by literacy level. The platform need to have features that make it accessible to those with visual impairments. The MPS interface should be made interactive and user-friendly by the developers.

Boost MP Collaboration via corporate integration, both vertically and horizontally, for example. The approach has been applied by ZAAD and M-Pesa, however in order to boost the innovation's general adoption rate, another payment platform need to use the same tactic. Raise customer awareness of personal information privacy and confidentiality. If IT companies educate both present and future customers on how to safeguard their personal data from outside parties, they may significantly lower the incidence of hacking and other forms of online fraud.

Standardizing transaction fees would help vendors persuade MP innovators who are lagging behind. The transaction price modification will encourage consumers who are cost conscious to use MPS. In order to charge transactions based on convenience and other payment methods, MP merchants must make sure that they do so.

Improves to MP regulations and rules are needed from the government. The rules have to be in line with the efforts made to prosecute fraudulent mobile transactions. Adequate MP regulations increase consumer adoption because they provide consumers the confidence to sue MPS scammers or sellers. MP consumer adoption is increased by the development of trust brought about by the availability of federal law protection.

In order to help developers and sellers customize MP depending on consumers' expectations, scholars should enhance the body of research on consumer behavior. The research found that post-consumption experience influences innovation uptake rates. Thus, a deeper comprehension of customer behavior aids suppliers and developers in enhancing MPS in accordance with user requirements and expectations.

### 5.3 Limitations

Throughout the examination, a total of twenty-five interviews were performed, and ten publications that had been examined by an additional group of researchers were consulted. One of the many variables that contribute to a decline in the amount of feedback that is received is the potential for interviewees to omit questions while conducting their interviews in situations that are unclear. One important consequence of this is that our findings can only be applied to a restricted extent because of this. The research did not account for any other factors that may have an impact on MPS implementation, either directly or indirectly, since it was primarily focused on the technical acceptance model and DOI. The main reason for this was because the study focused on accomplishing just that. This is the result that may be explained by the fact that one of the two hypotheses was used in the investigation. Furthermore, the financial status of both present and potential clients is ignored, even though it is one of the most important considerations. Despite the fact that it is one of the factors taken into account, this is the case. Bowen (2009) [31] states that the previously mentioned constraint has no effect whatsoever on the calibre of the findings. Taking into account all that has been considered, this is the possible conclusion. To maintain the previously established sense of objectivity, a random selection procedure was used to pick the interview subjects. Additionally, the journals selected for peer review were selected based on predetermined standards, which reduced the amount of bias to one that was deemed acceptable. This was achieved by journal selection. The great majority of the time, secondary statistics were employed in an effort to assess MPS engagement in other nations. The appearance of this phenomenon was caused by the fact that, at the time, all data gathered in Somalia were empirical data. As a result, the data gleaned from secondary sources will either provide an erroneous picture of the situation or be somewhat biased. These two results are potential possibilities. This might happen for one of these two occurrences. It is possible that both of these things will happen and in same case this can be done in both parties.

Consequently, there were no gender-related selection factors used in the process of choosing participants for the interviews. It is not feasible to provide adequate evidence to support the hypothesis that there is a relationship between gender and the usage of MPS procedures since the study's results did not provide enough proof. The fact that neither the participants' gender nor their income was disclosed during the interview limited the applicability of our results. This significantly limited the application of our results. The information that was accessible to vendors and developers alike would have increased if it

had been shown that gender and MP creativity are related. This would have been the requirement if the connection had been found. In order to get a more thorough understanding of the consequences of MP innovation with regard to economic level or gender, it is likely that the researchers who come after them will decide to expand the scope of their studies. There is a chance that this will happen. It is not impossible that anything like this will happen in this case we might see this happens.

#### **5.4 Future Research**

The study's conclusions make it imperative to carry out more pertinent research on a variety of subjects. This is essential to improve the technology's usability and expand the range of MP's applications. After doing a more thorough investigation, we came to the conclusion that there were not many publications that looked at the relationship between the adoption rate and the transaction price. After carrying out the inquiry, we came to this conclusion. We came to the idea that this was the end once the research was over. This is the conclusion we came to after more consideration. One of the things we discovered was that this was the case, and it turned out that this was the circumstance. Gaining a thorough understanding of the many ways that MP promotes dishonest activity is the main goal of our work. This goal will be accomplished via research, which will be conducted over the course of the next months and years. Our goal is to do this, thus collecting as much information as we can will be our top priority. Moreover, it is crucial that this goal serves as the primary focus of the investigation that is being carried out. On the other hand, over the course of its data collection efforts, the research did not conduct a thorough examination into the specific cases of fraud and support for terrorist organisations. Ndung'u (2018) made this charge in his report [25], which you may see by visiting this link. Although the study did not provide a thorough examination of the data, it did offer a synopsis of the implications related to the results. The lack of comprehensiveness of the analysis did not stop this from being done during the data collection. These are the findings of an inquiry carried out in 2015 by Dahlberg and his associates. The investigation's conclusions are provided here. research on MPS mobility have not yet concluded, despite research on perceived value, risk, trust, convenience of use, or security having concluded. This is true even when other people have arrived to the same conclusion. The same conclusion has been reached by several further research. This is the case, however, despite the fact that research on these characteristics has been conducted and successfully concluded. At this point, it's unclear exactly what conclusions may be drawn from the results of these study studies. There is some ambiguity

with this information. Because research on the mobility of MPS have not yet been conducted in any significant detail, the scenario has resulted in the situation that has developed. However, this is something that is quite different from the results of previous studies that have been done in the past on topics related to the conversation that is now going on. This is something that contrasts sharply with what it discovered. With everything taken into account, it is highly recommended that further research be done on the topic by the researchers in order to improve MPS's accessibility for the vast majority of people. It is crucial to remember the process of continuously bringing down the price of mobile phones in addition to developing the infrastructure needed for networks to provide wide coverage. This is quite important. This is because mobile phone devices are becoming more and more affordable. These two attributes must be taken into account since they are rather important. It is anticipated that the rate at which money is managed would increase dramatically, and this is predicated on the idea that all of these factors have been considered. It is challenging to dissect the nature of the connection into its constituent parts when it comes to the relationship that exists between the growth of the economy and the rise in the total quantity of money in circulation. This is due to the intricate and diverse nature of this relationship. Under no circumstances can the relationship that exists between these two parties be severed. Making such an attempt is not practical. It will be challenging for you to create some distance between yourself and the other party involved in the event that you decide to break up this relationship. A rise in the rate of exchange for goods and services is directly associated with an increase in velocity, and thus development of the economy follows. This is due to the direct relationship between the two variables. As long as there is still development being experienced, this cycle will keep on. As long as there is no growth in the economy, this cycle will undoubtedly keep happening. This cycle will keep going until the economy starts to flourish once again, and it will keep going until that happens. This will go on till that exact moment. To ascertain how it would impact the quantity of mobile transactions and the speed at which they are ultimately embraced, researchers must investigate the connection between integrating blockchain technology into the MPS and learning how blockchain functions. This is a very important stage in the whole process. There is no doubting that doing this task is a requirement that has to be taken into account. There are some instances of remarks that are not only noteworthy but also very amusing in the answers that are given and related to these two important queries.

## 5.5 Conclusion

This section aims to provide a summary of our inquiry, focusing on the results that we believe are the most remarkable. It also includes an analysis of the findings that were found at the end of the study. The research establishes a connection between the study's data, analysis, research methodology, and literature evaluation, as the chapter assures. The chapter adds an additional point of interest to the discussion. This discovery is a major advancement or contribution to the research that has been conducted. The main goal is to provide an overview of the research achievements that have been taken into consideration, after accounting for the main problem, the investigation's objectives, and the study's topic. The purpose of this part is to provide an overview of the topics that have been covered. The goal of this study project was to examine the factors that affect MP collection as well as the location of social influence that affects data gathering on digital payment systems in Somalia [32]. The research that was previously described allowed the study to successfully complete its examination goal. This process may be completed once it was completed since the investigation was conducted. Concurrent with this, an equivalent examination to the previous one was conducted. A thorough examination was conducted as the means by which this goal was achieved. This section, which serves as both the conclusion and the dual and complementary responsibility section, takes into account the outcomes that were found during the whole review process. Numerous studies carried out by educators have shown that there exists a wide range of particular situations that impact the MP acquisition process. The research's results, which included supporting data, have supported this claim. If the results of these studies are taken into account, the previously proposed conclusion in this case may be easy to reach the main goal and lead success.

the sense of comfort, promptness, and security that the person in control of the circumstance that needs to follow or the procedure feels

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# APPENDIX

## APPENDIX A

### Global Mobile Payments Market

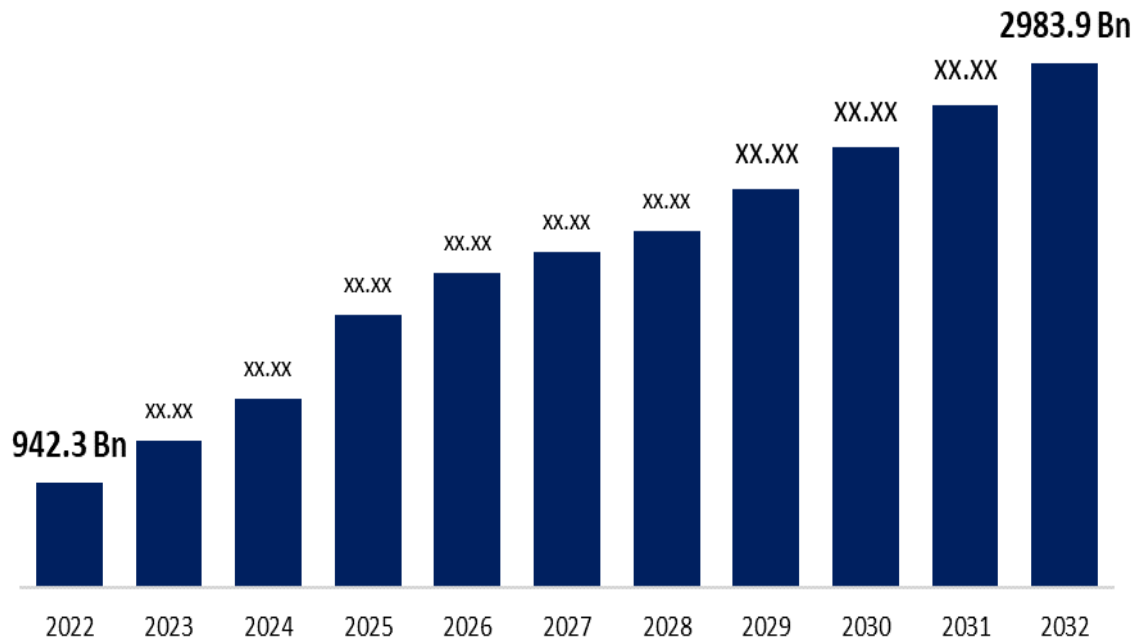


Figure 11 Global Mobile Payments Market

## APPENDIX B

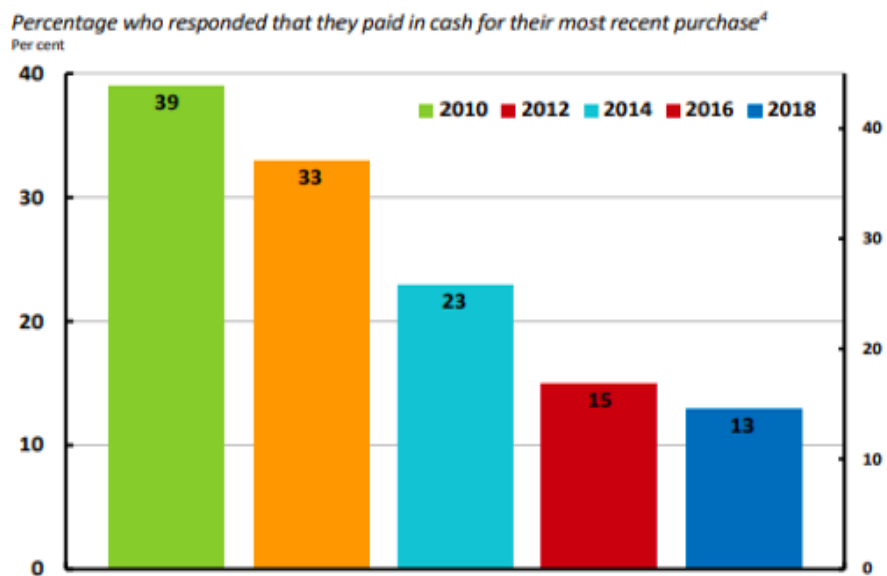


Figure 12 Cash Payment Percentage

## **APPENDIX C**

The following is the list of interview questions that were used. Furthermore, we conducted semi-structured interviews, meaning that not every interviewee had all of their questions answered.

### **1. Are you familiar with mobile payments?**

(a) Have you made advantage of mobile payments?

#### **1. What was your first thought?**

#### **2. When making an online purchase, what method of payment do you use?**

#### **3. Describe the benefits and drawbacks of the payment procedure.**

#### **4. For what kind of products or services do you most often use a mobile payment method?**

#### **5. How much do you know about banking apps and mobile payments? Have you heard of them before?**

#### **6. Do mobile payment companies educate consumers sufficiently via advertising and other means?**

(A) Is there anything they're doing incorrectly?

#### **7. In the event that you are exposed to mobile payments, what are the usual characteristics or elements that you will consider?**

#### **How did you find out about mobile payments?**

#### **9. Based on the mobile payment app or product that you now use or have previously used, rate the following factors:**

(a) Product payment convenience

(b) Reputation of the brand

(c) Simplicity of use

(d) Cost or transaction charge

(e) Confidentiality and Privacy

(f) The use of technology;

(g) Transaction security; (h) The interest in experimenting with new technologies

**10. Do you believe there is a substitute for cash transfers offered by mobile payments?**

**11. Do you believe that conventional payment methods like checks and electronic transfers are enhanced by mobile payments?**

**12. Do you believe that traditional methods of money transmission will be replaced by mobile payments?**

**13. Describe the impact of the following elements on the rate of adoption of mobile payment and how they apply to the present cash transfer environment:**

(a) price of mobile payments;

(b) ease of use;

(c) payment convenience; and

(d) brand loyalty, such as the usage of Apple Pay due to iPhone brand loyalty.

(e) Mobile payment transaction security; (f) user privacy and confidentiality;

(g) the innovation in mobile payment utility; (h) the dependability of mobile payment technology

**14. How does the government contribute to the expansion of mobile payments?**

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