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CONSUMER ADOPTION AND CONTINUOUS USAGE OF MOBILE BANKING SERVICES IN YANGON REGION

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CERTIFICATION

I hereby certify that content of this dissertation is wholly my own work unless otherwise referenced or acknowledged. Information from sources is referenced with original comments and ideas from the writer herself/himself.

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ABSTRACT

The study explores the consumer adoption and continuous usage of mobile banking services in Yangon Region. This study examines the effect of influencing factors (perceived usefulness, perceived ease of use, perceived trust and perceived risk) on the adoption of mobile banking services, the adoption of mobile banking services on the user satisfaction, the moderating effect of user experience (on the relationship between the adoption and user satisfaction) and satisfaction of users on continuous usage. Sample size of the study covers the random sample of (427) mobile banking users from five selected private banks in Yangon. The three-stage sampling method was applied. The primary data were collected with use of structured questionnaire. The study uses the simple, multiple and hierarchical regression analysis to meet the objectives of the study. According to the analysis, three variables which are usefulness, ease of use, trust have positive and significant effect on adoption and perceived risk is negative impact on adoption of mobile banking services. The mobile banking adoption also positively affects user satisfaction. Partial moderating effect of user experience is found on relationship between adoption and user satisfaction. There is a positive and significant relationship between user satisfaction and continuous usage. Therefore, the banks should put more emphasis on these factors such as perceived usefulness, perceived ease of use, perceived trust, and perceived risk to enhance consumer adoption. The study suggested that banks should focus on user satisfaction and attract users to have more experience and to make continuous use of mobile banking. Especially, the perceived ease of use of mobile banking services, which is the most important predictor for adoption, the banks need to create more user-friendly mobile applications. In addition, the users of mobile banks are well dispersed among rural and urban areas. Since mobile technology is still the newness to them, perceived ease of use can be the most crucial factor for consumers from both urban and rural, adoption of mobile banking services. All steps of processing should be designed to be clear and error free to reduce psychosocial burden for customers' easier adoption. Marketing department of the banks should promote user awareness by training call center employees. Finally, the service providers need to strengthen preventative and monitoring strategies to mitigate hacking and improve customer trust.

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LIST OF ABBREVIATIONS

ATM	Automatic Teller Machine
AYA	Ayeyarwady Bank
CB	Corporative Bank
CBM	Central Bank of Myanmar
ECM	Expectation Confirmation Model
ICT	Information & Communication Technology
IDT	Innovation Diffusion Theory
KBZ	Kanbawza Bank
MAB	Myanmar Apex Bank
MPU	Myanmar Payment Union
OTP	One Time Password
PEOU	Perceived Ease of Use
PIN	Personal Identification Number
PR	Perceived Risk
PT	Perceived Trust
PU	Perceived Usefulness
QR	Quick Response
ROI	Return on Investment
RTGS	Real-Time gross settlement
SMS	Short Message Service
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UAB	United Amara Bank
UI	User Interface
UX	User Experience
WAP	Wireless Application Protocol

CHAPTER I
INTRODUCTION

Today, the economic growth of a country mainly relies on the development of the service sector especially banking sector. Banking sector in Myanmar's economy comprises both state-owned and private banks. In particular, Myanmar has four state-owned banks, eight semi-government banks, eighteen privately owned banks and seventeen foreign bank branches and thirty-five representative offices of foreign banks (Central Bank of Myanmar, 2022). Recently, with the proliferation of bank branches, many banks are competing each other by adopting technological innovations and aggressive marketing strategies.

The ICT development in recent years has reinforced the banks to transform the nature of banking services. Technological innovation has become a key factor in the survival of many private banks, which have been operating under highly competitive market. One of the key service innovations implemented by banks in Myanmar is mobile banking service, which became the part of everyday life for many people. According to Central Bank of Myanmar (Central Bank of Myanmar, 2022), among 18 private banks that has obtained license for mobile banking services, ten banks have implemented mobile banking service. These banks try to use advanced technology for improving the quality of banking services, attracting new or potential customers and retaining present customers with high satisfaction levels.

However, technological innovation is still insufficient to maintain a competitive position in the banking sector as it requires understanding of consumer behavior. Schiffman & Kanuk (2009) noted that technological aspects of products and services has a direct impact on how customers, buy, utilize and dispose the product or service. Kotler & Keller (2006) focused that consumer behavior is the behavior that people display in searching for, purchasing, using, evaluating and disposing of products, services, experiences and ideas that they expected will satisfy their needs (Schiffman & Kanuk, 2009). Therefore, the banks need to understand how consumers construct decisions on adoption of mobile banking services and their continuous use.

Mobile banking is a framework for conducting financial transactions via portable internet-connected devices like tablets or mobile phones. It is also described as a method for customers and banks to communicate via mobile devices. (Lee, 2009). Mobile devices have provided an opportunity for the banking industry to introduce new services to the public. Though automated banking services via wireless networks, mobile banking is one of the business developments in every country. Moreover, as an important innovation, mobile banking has huge market potential as it provides substantial benefits to the consumers.

Mobile banking allowed customers in order to manage their funds more quickly and efficiently at any place and at any time. For this reason, mobile banking improves operations and reduces transaction costs for the customer. In addition, payment transactions, mobile banking services offered by private banks in Myanmar include other services such as accessing their bank information, balance inquiry, bill payment without physically visiting the branch of the bank where an account is opened.

Nonetheless, the customer decisions about acceptance of mobile banking usage depends on important factors such as perceived ease of use, perceived usefulness, perceived trust, and perceived risk (Mathieson, 1991). User adoption is the acceptance and continued use of a product, service or idea (Kotler, 2016). Bank customers' adoption of technological innovations is crucial as it affects customers' satisfaction. User satisfaction is the level of fulfillment that a user achieves from the use of a product or a service (Oliver, 2010). It is studied to be one of the most important competitive factors and will be the best indicator of a bank's profitability because satisfied customers will repeat used of banking services and loyal to the banks. Because of the user's judgment of how effective a product or service is in fulfilling their expectations, user satisfaction can come out from the utility drawn by users from products or services offered by financial institutions, particularly banks.

However, user satisfaction obtained from product or service adoption in banking industry could be affected by other factors such as user experience (Lee, 2009). User experience is also becoming increasingly important in the continuous usage of mobile banking services (Shaikh & Karjaluoto, 2015). Emotion of users for using a particular product, system, or service, define the user experience on products and services (Kim et al., 2005). It also includes a user's perceptions of the practical aspects such as bank communication, interaction between employees and customers, and fitness of services to customers' needs (Juttner et al., 2013). It is imperative for the private banks in

Myanmar to apprehend how user actual experiences of using mobile banking service shape their long-term relationships with their banks for sustained growth and profitability. Therefore, this study examines the adoption and post-adoption consequences that influence satisfaction and contributes use of mobile banking services users offered by the private banks in Myanmar to design effective operational and marketing strategies. From the same report, it was realized that the countries which had the highest increase in mobile penetration during the time period of 2014-2017 were Myanmar, Iran, India, Bhutan and Turkey. Reaching out to more individuals, including those in rural regions, is possible when using mobile banking (United Nations, 2018). Despite a rise in smartphone usage in Myanmar, there is still access to banking services.

1.1 Rationale of the Study

As presented in the introduction, although mobile banking is stated with many benefits and other opportunities to society, banks and users, the use of mobile banking services is much lower than expected usage. Although Myanmar is continuously changing and developing, there is little research about how the citizens respond to new technology. More than 70% of the population in Myanmar have access to mobile internet (Sitt, 2019), but there are only a few who use it for banking services (Zainudeen & Galpaya, 2015). To obtain a better understanding of the status of mobile banking in Myanmar and the citizens' attitude toward it, an exploratory study has been conducted.

The issue is related to the banks and users. In banking sector, Central Bank of Myanmar has been issued license to eighteen banks to provide mobile banking services. However, only ten banks have been offering these services to their users. From those received licensed, eight banks offer mobile payment services in addition to mobile banking service (Central bank of Myanmar, 2022). CB bank offered the first domestic mobile banking app in year as early as 2013 (Asiamoney, 2018). It should be noted that not all banks are not able to offer mobile banking service. Several factors limit the implementing of mobile banking for banks and users.

Mobile banking services have penetrated in Myanmar during 2014 and 2017 (United Nations, 2018), it has not reached the level where all banks that received license can offer mobile banking services until recently. One probable issue that prevents banks from offering these services may be high cost of services, as its implementation requires several costs associated with ICT infrastructure, human resources and service centers. In addition, recent economic stagnant may also create less attractive to make such costly

investment in mobile banking service. According to World Bank (2020), Covid-19 caused to drop economic growth of the country from 6.8% to 0.5%.

Nonetheless, recent developments in both digitalization and globalization create various demands on the services of banks from Myanmar users. Therefore, the service providers (banks) become aware that traditional banking services are not any more effective and sufficient. Private banks devote attention to offering a variety of financial services that are adapted to cutting-edge technology in order to suit the needs of consumers. Mobile technology becomes an undoubted technology for taking the initiative to provide banking services to customers. In addition, banks aware that mobile banking service may become an important source of additional income (World Bank, 2012). As a result, banks are offering mobile banking services to their customers for higher profitability.

Bank users in Myanmar are unlikely to use mobile banking services if they perceived that mobile banking is difficult to use, risk pertinent, inconvenience, costly. However, they will adopt if they perceived ease, convenience, risk-free, cost effective in mobile banking services. The adoption is the first step to use, which encourages user satisfaction and continuous use of those services. Users in this digital era want to have high service quality, convenience, and a better experience via mobile devices. Therefore, effective user experience is needed to maintain for long-term customer relationship.

Mobile banking played a critical role in delivering branchless financial services to customers during covid-19. With widespread use of mobile phone, the use of mobile banking is getting its force recently and more and more people tend to rely on it. However, the banks will obtain sufficient return on investment (ROI) only when they use it continuously. Users of the bank may stop using mobile banking services when they perceived unfavorable user experience in terms of risks and privacy. Nowadays normalcy is resumed from COVID-19 Pandemic in Myanmar, it is a question for banks that whether customers will continuously use of this services or not.

Some customers use of these services in spite of having some unexpected risks and mistakes in the services. Low adoption rate or low continuity would lead to an inconvenience to the society and a decline in profitability of mobile banking services for the banks. On the other hand, efficient mobile banking services can bring the mutual benefit of customers and service providers. For this purpose, it is essential for banks to

know the factors that are important for the adoption and continuous use of mobile banking services from a customer point of view.

In sum, the fact that mobile phones have increased in widespread use and penetration rates but with a low adoption of mobile banking by commercial bank customers arouses curiosity for conducting this study. Therefore, this study examines influencing factors on adoption of mobile banking services and relationship between the adoption and user satisfaction of mobile banking. In addition, the moderating effect of user experience on the relationship user satisfaction and continuous usage of mobile banking services. By understanding those factors, banks can develop their plan, policies, and improve their services accordingly which would eventually lead to more prosperous society, and higher profitability of banking industry.

1.2 Problem Statement of the Study

In recent years, technology has profoundly influenced the development of payment and settlement systems of the banking sector. Private Banks, which comprise of 18 banks in Myanmar's banking sector (Central Bank of Myanmar, 2022), adopt technological innovation in terms of offering mobile baking services. However, only ten banks have been providing mobile banking service operation until recently (Central Bank of Myanmar, 2022). Eight of private banks are not able to implement their operation for certain problems.

For those banks implementing mobile banking, the sufficient number of mobile banking user has yet to establish for each of them. The rate of mobile user in Myanmar is 133.6 percent (DATAREPORTAL, 2022) among the total population of 54.18 million in 2022 (The World Bank, 2022). Despite the number of mobile users is increasingly exponentially during this year, this rate is unsatisfactory with just over (50%) of the total population. According to Central Bank of Myanmar, there are 36 million mobile banking users in 2022 in Myanmar, which was an increase of 29 million in 2020 and 32 million in 2021. KBZ's users comprise of over 10 million, AYA for about approximately 1.4 million customers, CB nearly one million mobile banking users. UAB and MAB each comprises nearly 6 lakh mobile banking users. In addition, this rate is still much lag behind other lead countries in ASEAN region. For example, Singapore leads the highest adoption rate with more than 90% of users (McKinsey & Company, 2022).

Banks providing mobile banking services also encounter issues from multiple angles. One of the industry-level problems is changing consumer behavior in the banking sector. These changes are becoming increasingly complex, making difficult for the banks to satisfy customers. Banks that fail to identify and respond to the changing customer needs can face at risk of losing their competitiveness because attracting and retaining customers have become more difficult for banks. The success of mobile banking can ease the liquidity issue encountered by many banks and increase profit potential.

Another problem is the user-related issue. Many banking users lack the awareness on mobile banking adoption. As Myanmar used to be a cash-based economy, most of the users do not recognize the benefits of it. Besides, some people do not know how to use this service. The service provider (banks) needs to attract the customers to use mobile banking services, while handling security matters. Despite the number of mobile banking services users has been increasing in recent years (Financial service report of Myanmar, 2018) compared to 2021 due to banks' marketing strategies (e.g., personal selling, demonstration, customer services to open mobile banking etc.). It is not sure that the existing users are satisfied with those mobile banking services. Likewise, since banks do not usually take follow-up procedures, there exists a gap between the mobile service installation and actual use of it. The challenge for banks is that they need to understand these issues for higher usage.

Mobile banking plays a crucial role in delivering branchless financial services to users during COVID-19 crisis. Convenience and safe conditions in using banking services are become essential as health issues arises. The excellent services for mobile banking are the area to be emphasized by banks to get user satisfaction and retention. Bank need to find out the user perception on mobile banking services usage, their satisfaction, and continuous use of mobile banking services. Therefore, banks arrange how to attract and retain users to use continuously mobile banking services.

There is a major concern which limits the mobile banking services is fraud and scam. The banks currently protect them applying the personal identification number (PIN) for authenticating users. However, there is no effective measure for preventing it. Security and trust are major barriers for prospective users to use mobile banking services. Banks need to solve these issues to expand customers base and retain them for continuous use.

A number of research has been carried out mobile banking adoption in banking sector of Myanmar. This research has mainly investigated the level of adoption, a research gap exists that study about continuous usage of mobile banking services in Myanmar. In addition, majority of studies do not explore the contextual factors which can increase user satisfaction can increase from adoption of mobile banking. The mobile banking service providers would suffer from diminishing usage and lead to discontinuance if user interest in the initial adoption declines after experiencing mobile banking. In fact, this condition is depended on marketing strategy to enhance user experience (Noren, 2012). Therefore, an investigation of the process of continuous usage and the contextual factors affecting users' adoption and satisfaction is warranted.

This study results can contribute understanding about mobile service adoption behavior and continuous use that can further produce positive impacts on the state, industry and consumers. For the state, this comprehension can enhance economic development of Myanmar through preventing fraudulent behavior, tax invasion, and thus increasing GDP. Likewise, user adoption and continuous usage is critical for banking industry and long-term competitive advantage of individual banks. With this understanding, banks can implement or modify their operational and marketing strategies for generating users' satisfaction and increasing user adoption and stimulating their continuous. Similarly, customers can save time and cost from more effective and efficient mobile service transactions.

1.3 Research Questions of the Study

Based on the above problem statement, the following research questions were examined in the study.

1. What factors are influencing the adoption of mobile banking services in Yangon Region?
2. How much extent of the adoption of mobile banking services lead to satisfaction of the users in Yangon Region?
3. What extent of user experience have moderating effect on the relationship between the adoption of mobile banking services and the satisfaction of users in Yangon Region?
4. How much degree of the user satisfaction of mobile banking services lead to continuous usage of the users in Yangon Region?

1.4 Objectives of the Study

The main objective of the study is to analyze the factor affecting the consumer adoption and continuous usage of mobile banking services in the Yangon region. This study intended to achieve the following objectives;

The specific objectives are:

1. To examine the influencing factors on the adoption of mobile banking services in Yangon Region.
2. To examine the effect of the adoption of mobile banking services on the satisfaction of users in Yangon Region.
3. To analyze the moderating effect of user experience on the relationship between the adoption of mobile banking services and the satisfaction of users in Yangon Region.
4. To analyze the effect of user satisfaction on continuous usage of mobile banking services in Yangon Region.

1.5 Methods of the Study

The study mainly used a quantitative research method by using both primary and secondary data. The primary data was collected from mobile banking users of selected private banks by using three-stage sampling methods. In the first stage, five private banks in Yangon were selected, these five banks offered mobile banking services to customers for more than five years. In the second stage, eleven branches were selected from the chosen private banks based on the convenience sampling method. In the third stage, a total of sample (427) customers were chosen from eleven branches of five selected private banks by using a systematic random sampling method in which every three users were chosen as sample units to obtain the required sample size of 427 mobile banking users.

A structured questionnaire was used to collect primary data. The secondary data were taken from various sources such as, textbooks, articles, annual reports, web site, and academic journals were used to obtain necessary data and relevant literature. Then, descriptive method was applied to study the perception and background characteristics of mobile banking services. Correlation and regression analyses were used to examine the objectives of the study.

1.6 Scope and Limitations of the Study

This study typically focuses on consumer adoption and continuous usage of mobile banking services. Thus, only mobile banking and not online banking is included in the study. The study was conducted for the period beginning in 2017 and ending in 2023. The study focuses on an analysis of selected private banks in Myanmar; namely, Kanbawza Bank (KBZ), Ayeyarwady Bank (AYA), Cooperative Bank (CB), Myanmar Apex Bank (MAB), and United Amara Bank (UAB). These banks have greater utilization of mobile banking services compared to the other banks.

In addition, banks that have been experiencing mobile banking services for more than five years is one of the important factors in selecting the private bank in this study. Personal interviews with authorized persons/ mangers were used to get the information, about how banks are preparing of mobile banking services for users. The sample size was (427) users of the selected private banks. The majority of these users are saving account holders and they were expected to conduct mobile banking transactions. The study did not consider state-owned banks and other financial institutions. Therefore, it is possible that the findings of the study regarded to the consumer adoption of continuous uses of mobile banking services in the scope of the study and may not represent the whole usage of mobile banking services in Myanmar.

1.7 Organization of the Study

There are six chapters organized in the study. The introduction chapter presents the rationale of the study, the problem statement of the study, the objectives of the study, the methods of the study, the scope and limitations of the study, and the organization of the study. Chapter two presents relevant concepts from the theories and literature on consumer adoption of mobile banking services and continuous usage. It also includes previous studies on the adoption of mobile banking services and their significant findings are discussed. In addition, this chapter also provides a conceptual framework for the study. Chapter three presents the overview of mobile banking services in Myanmar. Chapter four provides the research methodology, questionnaire design and data analysis method of the study are presented.

Chapter five is an analysis chapter and examines the influencing factors on the adoption of mobile banking services, customer satisfaction, and continuous usage of mobile banking services and their relationships. Moreover, the moderating effect of

user experience on the relationship between adoption of mobile banking and user satisfaction is also explored in this chapter. The last chapter, chapter six, is the conclusion chapter which presents findings and discussions along with suggestions and recommendations for service provider especially banks, contribution of the study and needs for further research.

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CHAPTER II
LITERATURE REVIEW

This chapter includes a review of the literature that is relevant to the study. The literature review is structured into seven major sections. The first section of the literature review is the theoretical review. The second section is the factors affecting the adoption of mobile banking services. The third section includes continuous usage of mobile banking services. The fourth section involves user satisfaction of mobile banking services. The fifth one is user experience of mobile banking services. The six section is an empirical literature review of relevant empirical studies. The final section is a conceptual framework for the study.

2.1 Theories of Consumer Adoption

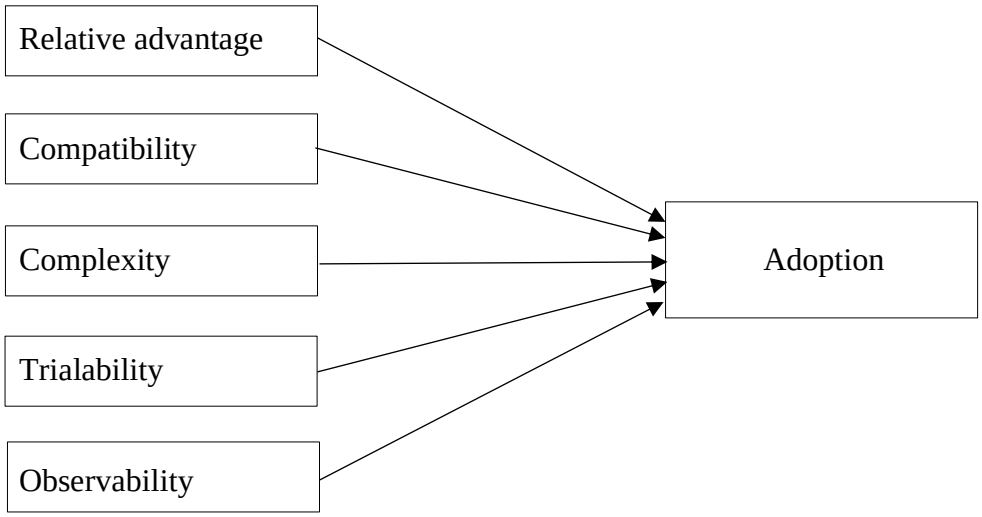
Adoption of mobile banking service is acceptance or being able to accept a new technology introduced and accepting the service is a user willingness to use the service. Cruz et al. (2010) suggested that if one adopted this service, it had great potential to provide reliable services to everyone in any places even those limited by facilities. Kotler (2016) defined as adoption is the decision by an individual to become using regularly for a product. The adoption process consists of stages of awareness, interest, evaluation, trail and use. Although the conventional adoption process appears straightforward, it is insufficient to convey to consumers the complexity of the adoption of a product. While the acceptance of an innovation may result in significant behavioral and lifestyle changes, the adoption of some products and services may have very minor repercussions. Therefore, this section describes the more acceptable theories and models on technology adoption and use which evolved over the years.

2.1.1 Diffusion of Innovation Theory

The most popular theory in customer adoption, diffusion of innovation theory (DIT) investigated how to adopt innovations or new ideas of technology and services. Rogers (1983) stated that the innovation of adoption process starts with the

communication of existing an idea or innovation. It is a step-wise process where individuals in a society obtain knowledge about the existence of an innovative product (Rogers, 2003). Diffusion Innovation theory has been used in the modem banking system which is very convenient, flexible and time-saving compared to traditional banking system for users (Firdous & Farooqi, 2017). An individual can progress from the knowledge gain of product or service innovation and formation of an attitude about it. Learning organization or individual of a new product or idea develops an attitude towards them. This attitude may be positive or negative. A decision about the innovation is made whether it is adopted or reject based on the attitude of potential user.

Figure (2.1) Diffusion of Innovation Theory (DIT)



Source: Rogers (1995)

As presented in Figure (2.1), DIT took into account that acceptance requires the presence of five key attributes. The first attribute is the relative advantage of an innovation that offers desirable consequences for the adopters compared to the other available alternatives defined by Rogers (1995). Moore and Benbasat (1991) stated that relative advantage notes to the advantage and benefits assumed to be obtained after the innovation process took place. The degree to which an innovation is viewed as being compatible with the values, experiences, and requirements of potential adopters is referred to as compatibility. It is consistent and harmonious with the user's needs, values, experiences and wishes. Complexity is decided to be the extent to which an innovation is considered level of difficult of technology usage. Rogers (2003) stated that new technologies may be categorized according to a continuum of complexity-

simplicity. If innovations are simple and easy to use, they are easily adopted by the user than that of complex innovation (Greenhalgh et al., 2004).

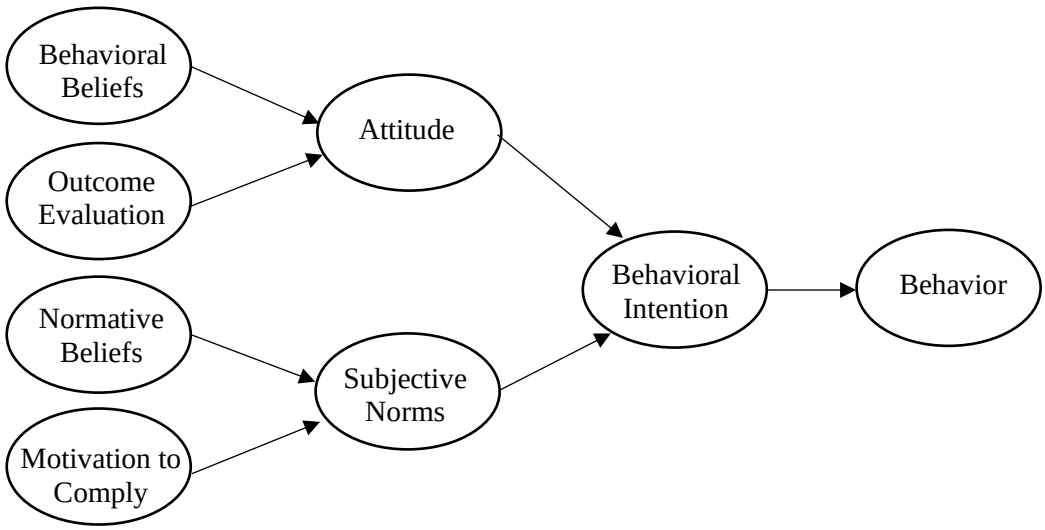
Trialability is the degree of which an innovation can be strived or experienced before the usage and adoption stage by potential adopters on a limited basis defined by Rogers (2003). It is essential for innovation adoption process in the banking sector. Finally, technology adoption is influenced by observability considering to the level of perceived benefits of a product identified by the society. Hayes et al. (2015) noted that the ability of trial of observation in products and services have the overall effect of enhancing the personal decisions towards the adoption of a product or service because of user consideration the ability to engage in trials as risk-reduction activities. Thus, the theory of diffusion is relevant in the context of banking technology adoption and diffusion.

2.1.2 Theory of Reasoned Action (TRA)

The theory of reason action (TRA) developed by Fishbein and Ajzen (1985) has been considered as one of the most influential theories in the field of human behaviour, being used to investigate not only the attitude behaviour relationship in many fields of study, but also in information systems technology (Magee, 2002). TRA defined intentions as "probability of performing the stated action by the respondent" in variables and relations (Ajzen & Fishbein, 1980).

This theory is important as it has been widely used to explain human behavior (Lin, 2005). Those intentions, are based on attitudes and subjective norms, immediately influence the behaviour.

Figure (2.2) Theory of Reasoned Action (TRA)



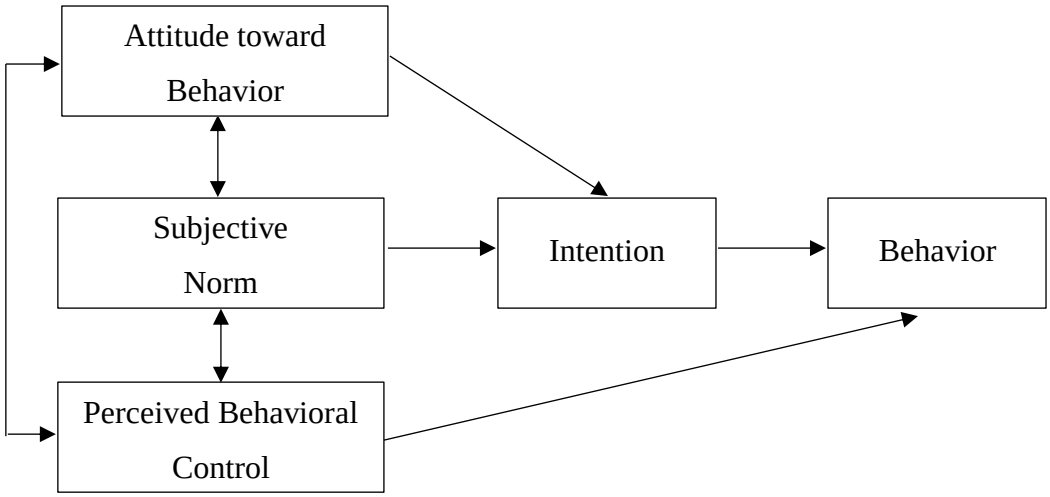
Source: Fishbein and Ajzen (1975)

As presented in Figure (2.2), attitudes, which are the first component of intentions, are influenced by behavioural beliefs and outcome evaluations (Fishbein & Ajzen, 1975). They also stated that attitudes, mainly based on positive and negative self-evaluations of certain behaviour, in other words, the person's general feelings of favorableness or un-favorableness toward a certain concept, reflect the amount of affect. Subjective norms are the second component of intentions, and they are influenced by normative beliefs and motivation to comply (Fishbein & Ajzen, 1975). Subjective norms refer to an individual perception of its behaviour from the perspective of others (Ajzen & Fishbein, 1980). Therefore, subjective norms focus on the influence of other people in the external environment on the individual's intention to perform behaviour. Therefore, these components are determined by the "perceived expectations of specific referent individuals or groups and by the person's motivation to comply with those expectations" (Fishbein & Ajzen, 1975).

2.1.3 Theory of Planned Behaviour (TPB)

Theory of planned behavior (Ajzen, 1991) assumes that the behavior of an individual is influenced by his or her behavioral intentions, and affects the person attitude. Behavioral intention is described to be the measure of the strength of individual's readiness to make effort towards a certain activity. It is useful to predict customer behavior, especially the attitudes towards new technologies or innovations. The TPB was shown to be a simple model with good explanatory power to predict the intentions of the customers to adopt the e-banking technology. Nasri & Charfeddine (2012) investigated the adoption of mobile banking framework of the TAM and theory of planned behavior. Both TAM and TPB were shown to have high explanatory power in explaining the behavior of customers in adopting mobile banking services.

Figure (2.3) Theory of Planned Behaviour (TPB)



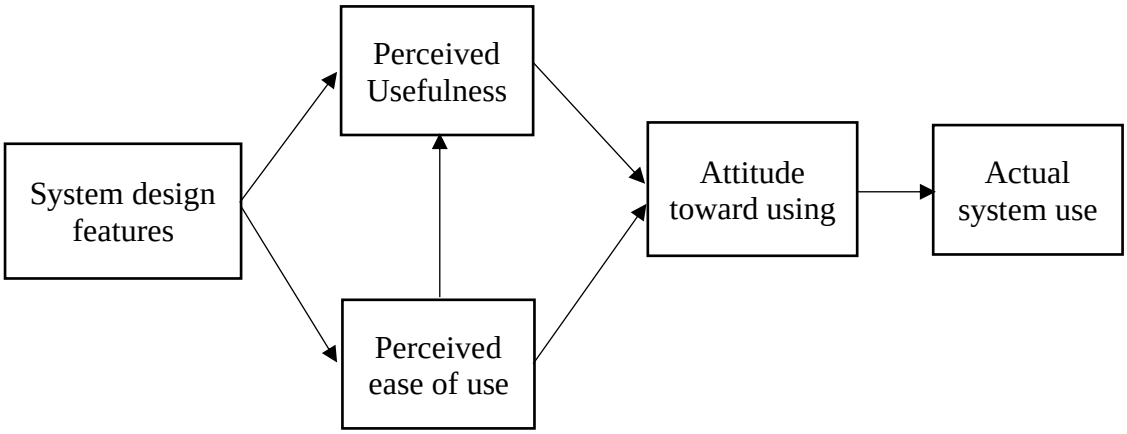
Source: Ajzen (1985)

As Figure (2.3) show that, the first factor is individual attitudes, which is the assessment whether positive or negative of a behavior. Behavioral attitude has a direct impact on the strength of the behavior and the beliefs that is on the likely behavioral outcomes (Capece & Campisi, 2013). According to Alsajjan and Denis (2010), the overall attitude could be determined as the sum of individual outcomes or as a product of desirability assessments for all predicted outcomes. Subjective norms, the second determinant of behavioral intentions, are the perceived pressures that an individual may encounter forcing user to engage in a certain behavior from other people. Subjective norms may be regarded as the personal beliefs on whether others person considered to be of importance to approve a behavior of person's life. In technology adoption, subjective norms play a main role in determining whether an individual adopts a technology or not. The third determinant is perceived behavioral control, which is the perceived ease or difficulty in executing a certain task (Capece & Campisi, 2013). Behavior which is perceived to be difficult to perform is associated with lower intention and actual behavior adoption.

2.1.4 Technology Acceptance Model (TAM)

This model, first introduce by Davis (1989), was originally designed to predict a user's adoption of information technology and application on the job. The first version of TAM was mainly focused on user motivation (see Figure 2.4). As presented in Figure (2.4) relations of TAM was showed by Davis 1989.

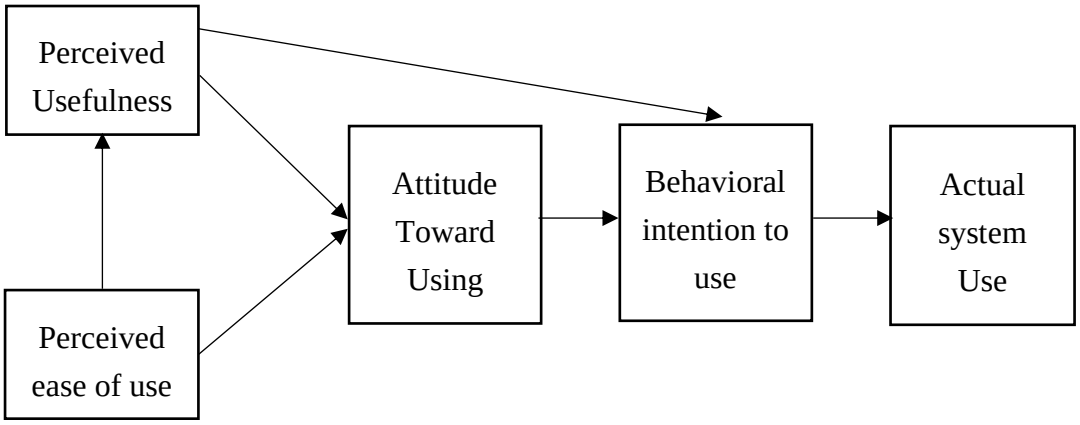
Figure (2.4) Theory of Technology Acceptance Model First Vision (TAM)



Source: Davis (1989)

The first version was edited several times. Davis et al. (1989) modified TAM by integrating behavioural intention to previous model developed by Davis (1989). The model showed that customer may directly form a positive intention to use a system because they perceived the system to be useful. Moreover, Venkatech & Davis (1996), whose propose that attitude was not found to fully mediate the relation between perceived usefulness and vehavioural intention (see Figure 2.5).

Figure (2.5) Theory of Technology Acceptance Model Second Vision (TAM)

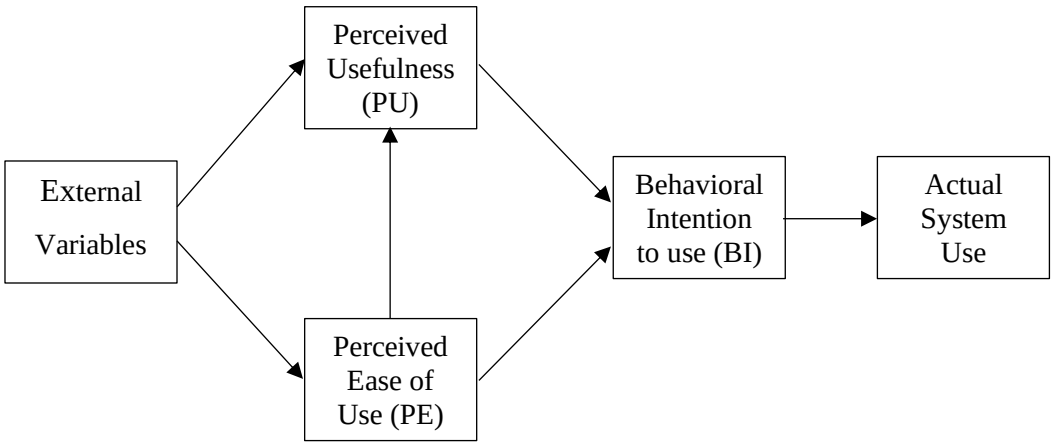


Source: Davis & Venkatech (1989)

Finally, the third version of TAM examined three main variables: perceived usefulness, perceived ease of use and behavioural intentions. Finally behavioural s are the direct predictors of actual technology usage. As presented in Figure (2.6) relations of TAM was edited by Davis & Venkatech (1996). TAM has become a well-established, powerful and parsimonious model for forecasting user adoption

(Venkatesh & Davis, 2000) and become the most widely applied model of user adoption and application.

Figure (2.6) Theory of Technology Acceptance Model Third version (TAM)



Source: Davis &Venkatesh (1996)

The original TAM by Davis (1989) includes two concepts; Perceived Usefulness and Perceived Ease of Use. Perceived usefulness (PU), one of the factors that influence the acceptance of a technological innovation, refers to the degree to which individuals hold that an innovation will be useful to them in terms of job performance. Perceived usefulness is the subjective probability of technology use improving an individual's performance defined by Davis et al. (1989). Perceived usefulness of a technology has a significant impact on the user's attitude and intentions. Therefore, innovation in banking could be strongly influenced by perceived usefulness as fundamental element of the TAM theory. However, a perception of usefulness alone is not enough to determine whether or not a user will accept a technology. The second factor of TAM is perceived ease of use (PEOU).

PEOU is the degree of potential innovation in which user believes that innovation is not only easy to use but also asking minimal effort to use (Davis, 1989). The perceived ease of use is supposed to have a direct impact on the perceived usefulness of an innovation (Amin, 2009). Easily adopted innovations have a combination of usefulness and ease of use. The perceived ease of use affected not only the acceptance of the mobile banking technology but also the long-term adoption of the technology.

Chung and Kwon (2009) demonstrate that the concepts of PU and PEOU are positively related to behavioural intention and adoption of mobile banking. However, Mathieson (1991) stated that although extensively validated, it is not enough to depend only on these two concepts of perceived usefulness and perceived ease of use and then investigated user's technology acceptance. Riquelme and Rios (2010) and various researcher recommend that there are some possible factors that might affect mobile banking adoption such as perceived risk and trust to better investigate user intention of mobile banking application.

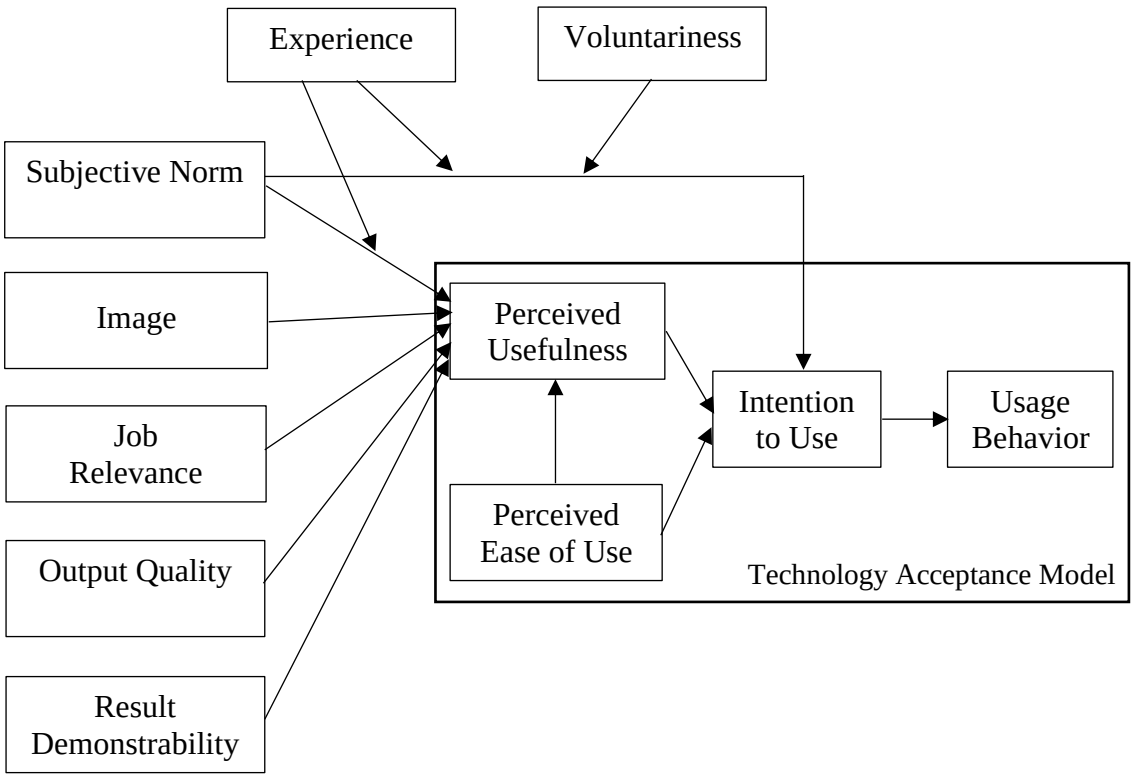
Rose and Fogarty (2006) extended TAM to include perceived risk, factors of new technology acceptance factor. Perceived risk also played an extremely important role in influencing the acceptance of the technology. Lee et al. (1970) stated that users considered the quality of information, systems, design provided by the mobile banking provider as critical in establishing their trust in mobile banking. In the previous study found that PU and PEOU are not sufficient to capture key opinions for adopting new technology and that's why many previous studies have integrated more variables to TAM such as perceived Risk and Perceived Trust (Lee, 2007).

Theory of Technology Acceptance Model 2 (TAM2)

To overcome the limitations of the previous TAM, Venkatesh (2000) developed a new model called Technology Acceptance Model 2. Based on the same principals and ideology of TAM, the new model aimed to increase the explanatory power of TAM by adding new constructs affecting perceived usefulness and behavioural intention (Venkatesh & Davis, 2000).

According to Chuttur (2009), TAM2 is a more comprehensive model, as new variables were incorporated in order to explain the preferences for any new system or technology, in addition to exploring the impact of social constructs (subjective norms) on usefulness and intention to use a technology (see Figure 2.7).

Figure (2.7) Theory of Technology Acceptance Model 2 (TAM2)



Source: Venkatesh and Davis 2000

Legris et al. (2003) studied that the new added constructs can be integrated in two main categories: social influence and cognitive instrumental processes which were considered as essential to the study of user acceptance of new technologies (Chau, 2001). Variables and relations showed that seven new constructs were added that TAM2 distinguish from TAM. These new constructs were integrated into two categories: social influence such as subjective norms, voluntariness and image and cognitive instrumental process such as job relevance, output quality, result demonstrability, and experience (Venkatesh & Davis, 2000).

Starting with the first construct, subjective norms were mainly adopted from previous studies and it is "the person's perception that most people who are important to his thought that he should or should not perform the behaviour in question" (Fishbein & Ajzen, 1975). Subjective norms are considered to have a positive relation with perceived usefulness. The relationship between these two constructs is explained based on the concept of internalization developed by (Kim, 2005). Thus, if an employee notices that his/her supervisor considers that a new system is useful in their work; employee may as well start thinking that the new system is useful.

Subjective norms have been found a relationship with behavioural intention. According to Venkatesh (2000), people may intend to perform a behaviour based on the beliefs of important referent people. Image, the second new construct in TAM2, is defined as the degree to which using a new system of technology will enhance an individual's social level among peers (Venkatesh & Davis, 2000). Image is related to subjective norms based on the term "identification" (Kim, 2005). Therefore, if important organizational employees have faith in a system, then an employee's usage of such system will develop his/her status among colleagues. Moreover, image has a direct effect on perceived usefulness. If a person believes that using the system will improve his/her status in a certain organization, this will directly increase the productivity and effectiveness of the system, which means increasing perceived usefulness (Venkatesh & Davis, 2000).

The relation proposed in TAM2 of subjective norms with both perceived usefulness and behavioural intentions is moderated by two new constructs: voluntariness and experience (Venkatesh & Davis, 2000). Voluntariness is reviewed the opposite of mandatory and is identified as a decision in non-mandatory situations (Venkatesh & Davis, 2000). Hale et al. (2006) studied significant relation between subjective norms and behavioral intentions in cases where the system usage is considered to be mandatory.

TAM2 examined that experience moderates the relation between subjective norms, perceived usefulness and behavioral intentions. Venkatesh (2000) maintained in their studies that initial decision making and initial behavior relies on other people's opinions (i.e. subjective norms), but as time goes by (i.e. increased experience), behaviors and intentions will be based on experience and not on others' opinions.

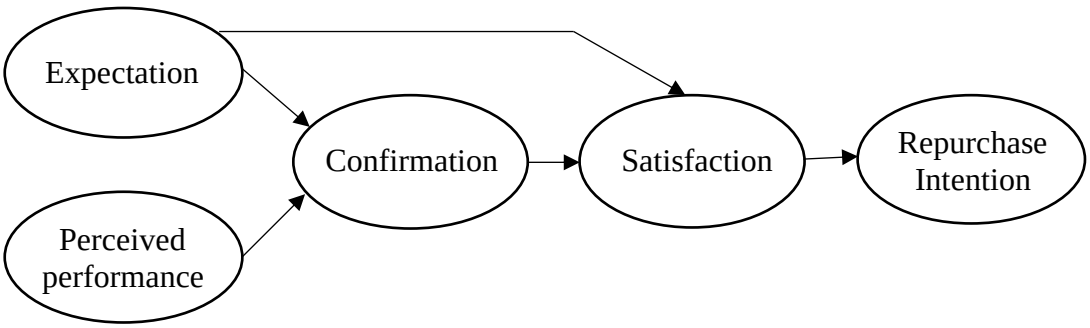
The remaining cognitive instrumental processes in TAM2: job relevance, the extent to which an individual considers using a system to be applicable in his/her job; output quality, the extent to which a used system or technology is evaluated in performing tasks; result demonstrability, the extent to which a system user can attribute his/her performance increase to the system or technology usage (Moore and Benbasat 1991) are the predictors of perceived usefulness (Davis, 2000).

2.1.5 Expectation Confirmation Theory

Expectation-confirmation theory is widely used in the marketing and information systems literature (Oliver, 1980) to study consumer satisfaction and repurchase intention and behavior. Information systems (IS) utilization has been the subject of an expanding corpus of theory-based study during the past ten years. The technology adoption model is based on Rogers's (1995) innovation diffusion theory (Davis,1989), and the theory of planned behavior (Ajzen,1991), these studies have examined variables that motivate individuals to accept a new IS, and how they do it. While initial acceptance of (IS) is an important first step toward realizing Is success, long- term viability of an IS and its eventual success depend on its continued use rather than first-time use.

The Expectation Confirmation Theory (ECT) is set up based on the Expectation Non-Confirmation Theory. It provides an important foundation for researching continuous use of consumer. Expectation-confirmation theory (ECT) is broadly applied in the consumer behavior literature to study user satisfaction, after-purchase behavior (Anderson & Sullivan, 1993). The concept of ECT also theorizes expectation as an additional factor of satisfaction, because of providing the reference level for users to form evaluative judgments about the target product or service. According to ECT, a consumer's decision to repurchase a good or continue using a service is mostly based on how happy they were with their initial experience with that good or service (Anderson & Sullivan, 1993).

Figure (2.8) Expectation-Confirmation Theory (ECT)



Source: Oliver (1980)

Figure (2.8) showed that, Expectation Confirmation Theory explains key concepts and relationships. This theory is broadly applied in the marketing and

information systems literature (Oliver, 2010) to investigate user satisfaction and repurchase intention and behavior. The process by which users reach repurchase intentions in an ECT framework developed by (Oliver, 1980) is as follows.

First, consumer form initial expectations of a specific service or a product prior-purchase. Second, user agree and consume the service or the product and form perceptions about its performance based on the experience following its initial consumption. Third, user evaluate its perceived performance against their initial expectations and shape the extent to which their expectation is confirmed. Subsequently, based on the level of confirmation and the expectation, they form satisfaction or dissatisfaction. Finally, the users form a repurchase intention when they are satisfied, and dissatisfied consumers discontinue use. Satisfaction is defined as the key to building and retaining a loyal consumer. Consistently, it is important to bank devise effective strategies and maintain existing users of their mobile banking services to be able to enjoy the long-term benefit of having loyal customers.

2.2 Factors Affecting the Adoption of Mobile Banking Services

According to the above theories and models, there are many factors that can influence the adoption of mobile banking services. Among them, perceived usefulness, perceived ease of use, perceived trust and perceived risk are used to analyze the influencing factors on the adoption of mobile banking services.

2.2.1 Perceived Usefulness (PU)

Davis (1989) defines perceived usefulness based on how strongly a person holds that employing a specific system will enhance person' job performance. Mobile banking gives a user convenience; an opportunity to conduct banking transactions anywhere at any time. It is refers to the extent to which an individual believes that users would help from using mobile banking services. This variable has been widely used in the area of mobile banking services (Kim & Lee, 2009). Several studies have discovered that the uptake of mobile banking services was significantly influenced by perceived utility (Davis, 1989). It is the grade to which an individual believes that using a specific system would improve individual's work (Davis, 1989). This variable is accepted as having a powerful impact on the purposes of modernization users. Chau (2001) stated that potential users evaluate the consequences of their adoption behavior based on the ongoing desirability of usefulness created from the innovation.

Speed and accuracy are convenient to use mobile banking system and faster processes for mobile banking than doing simple tasks such as balance checking. In the previous studies, Hale & Thakur (2006) stated that greater speed improves the user's belief in the usefulness of mobile banking services. In order to prevent the inconvenience of standing in line in front of an ATM to check an account balance, it was determined that one of the most promising mobile banking services was that of instantly checking bank account balance (Laukkanen, 2007).

Mobility access was described as the ability to use mobile banking as the primary method of conducting banking when a user is in a hamlet without an ATM or access to transportation. Users can access mobile banking services anywhere/anytime through their mobile devices. Therefore, another prerequisite for using mobile banking services is mobility access. Adding other functions and convenient responsive systems in mobile banking should allow users to perform additional functions of banking, as well as taking into account the competitive advantage of adopting mobile banking. The perceived utility of mobile banking services is significantly influenced by these sub-variables.

2.2.2 Perceived Ease of Use (PEOU)

Perceived ease of use refers to the level of a person's beliefs that using a particular system would be without effort (Davis,1989). According to Rose and Fogarty (2006), it is a limited resource that a person can distribute among the many responsible activities and is free from difficulty or substantial effort. If everything else is equal, users are more likely to accept an application that they view as being simpler to use than another. Mobile money transfers have registration processes, user-friendly payment processes, simple access to customer support, few steps needed to complete a transaction, and screens with the right size and input capabilities.

Venkatesh et al. (2003) stated that PEOU is a determinant of the adoption of mobile banking. The mobile phone functions, size of screen and type of keypad can be considered to be contributing factors to ease of use. In mobile banking using of mobile phones with small keypads can lead to typing errors during transactions and affecting the ease of use. A mobile phone with small screen cannot view all information, and inconvenience for some users because of relatively small font. Additionally, users should be able to access them on mobile devices with the most fundamental functions

and programs. According to Tobbin and Ebo (2010), previous studies have found that (PEOU) is a significant factor in determining the behavioral intentions of consumers.

Mathwick (2001) mentioned that the nature of work or service related to it might overwhelm its perceived ease of use. In the modern banking setting, perceived ease of use stands for the step to which men connect without difficulty with the use of mobile technology and services in everyday use (Knutsen & Damsgaard, 2005). According to, Moon &Kim (2001) mobile banking services that are easy to use will be less challenging to people in that they might find it is simple or boring to use. In this study concluded the three sub-variables of perceived ease of use. There are three importance factors on the perceived ease of use of mobile banking services.

Prior research and the literature both defined compatibilities. The ability of customers to incorporate products, services, and technologies into their daily lives is crucial (Jayawardhena & Foley, 1998). It is the degree to which emerging in online transaction via mobile banking is perceived as being consistent with the potential users' existing value, beliefs, previous experiences and current needs. It can be considered as a sign of how well the technology or service satisfies the needs of the users in terms of lifestyle and financial management.

According to Luarn and Lin (2005), the self-efficacy of mobile banking is an assessment of one's aptitude for using a mobile banking service. It might cover the expertise, aptitude, and abilities required by modern information technology. Davis (1989) hypothesized that there is a connection between perceived self-efficacy and reported ease of use. To be an efficient transaction any online services or transactions must be simple and convenience to insure the acceptance of the user. In addition, mobile banking transactions should be secure, usability, simplicity, timeliness, privacy and experience.

2.2.3 Perceived Trust (PT)

Trust is a defining feature of most economic and social interactions where uncertainty is present, and it has always been an important element in influencing consumer behavior (Pavlou, 2003). Several studies have found that trust is a major determinant of intention adopting or continuing usage of mobile banking services among different users (Ahmed & Ali, 2017). Perceived trust is an important factor of consumer' acceptance of mobile banking services.

In the banking sector, as financial operations are mainly based on trust and services provided by banks, assessing trust with use overtime and the pre-purchase of service quality is necessarily vague and incomplete. For this reason, in case of mobile banking trust is realized to be the extent to which an individua accept of secured mobile banking no privacy threats (Chang & Lin, 2010). In addition to mentioned that when it comes to mobile banking, trust is found to be crucial and complex as customers should trust the mobile banking transaction completely. Perceived trust is more important in case of mobile banking rather than face to face service in banking. Banking transaction through online is riskier due to lack physical presence of physical branch, as well as face to face interaction between bank and customer (Chan, 2004).

Tan (2016) stated that trust directly influenced on the intention towards mobile banking adoption. Additionally, many previous researches that considered the drivers of mobile banking adoption have appointed trust to play a major role in determining the intention towards using electronic banking (Amin, 2009). Trust is determined as the intervening factor in the mobile banking services relationship. Bank clients are usually worried about asymmetric information. According to Zucker's theory (1986), there are three models of trust: features of mobile service providers, features of mobile payment vendors, and features of mobile technology. Trust is difficult to construct customer confidence in mobile banking services.

Due to information technology advancement, mobile banking becomes an integral part of life. For this reason, image, integrity, and availability of information security is benchmark model used to evaluate information security. Trust in service providers has a critical role in continuance usage of mobile banking services. Mukherjee and Nath (2003) found that trust is an antecedent of commitment in mobile banking. Aydin and Ozer (2005) mentioned that building trust is not only perceiving good outcomes but also believing continuation of good results.

Ranaweera and Prau (2005) claimed that trust has more impact on continuous usage than satisfaction while Hsu (2007) supported that trust has a positive impact on continuance intention to use of mobile banking services. The higher the levels of trust in mobile banking service providers, the greater the intention on the user to engage in mobile banking transactions (Gu, Lee & Suh, 2009).

This study concluded the three sub-variables of perceived trust. Image is defined as the level of using system of technology enhanced an individual's social level among peers (Venkatesh & Davis, 2000). Integrity is a promise, a responsibility and

increasingly, a customer expectation (Lehtinen et al., 2006). Availability is the prevention of resources and information loss to ensure available information when it is needed. Mobile service providers are responsible to ensure availability of mobile banking systems. Previous studies on electronic and mobile applications consistently used availability to find its significance on consumer trust (Lee, 2005), from significant finding in majority study. Therefore, these sub-variables are important factor in influencing mobile banking adoption.

2.2.4 Perceived Risk (PR)

Perceived risk has been used to study consumer behavior and decision-making since the 1960s (Taylor, 1974). It will be affected on an insufficient or unreliable security technologies. The previous technology adoption studies found that the perception on risk is meaningful adoption of a new technology or services (Yap, 2012). A technology adoption of service providers will be highest if the related risk is low. Perceived risk has a result on usage or purchase intention of mobile banking services. Perceived risks of information loss during mobile banking transactions are also an important factor that customers will consider to access mobile phone-based services (Luarn & Lin, 2005).

There are different types of risks identified in the previous research about mobile banking and other banking technologies. This study concluded the three sub-variables of perceived risk. Firstly, privacy and security were concerned with mobile banking among some consumers (Lin, 2005). A PIN codes has been used to increase the security. Fearing hackers, banks may require a PIN code to access to their bank account. Personal details and financial information became the main concern for mobile banking (Brown et al., 2003). Performance risk referred to loss incurred by malfunctions or deficiencies of mobile banking services (Lee, 2009). Pal et al. (2020) interpreted financial risk as an impact of possible monetary loss owing to fault, theft, and business problems.

Financial risk is focused as the potential for monetary loss because of transaction errors or bank account misuse (Lee, 2009). Financial risk is probable losses caused by the seepage of bank account numbers, passwords, and credit card numbers. Errors and process failures can also cause financial losses. Nowadays, there are an increasing number of mobile malware attacks. Financial hazard, a negative effect on the purpose of use, has become one of the most disturbing factors and it is essential to

take relevant measures to prevent financial risks.

Customers actually have adoption of mobile banking when they have high level of trust in using mobile banking and feel free of risk. Perceived risk is a major factor affecting on using new technology applications such as mobile banking. It is a significant factor of customer adoption of mobile banking services. Perceived risk is associated with possible losses from banking transaction because it concerns a virtual environment no interaction of employees, not a traditional environment.

2.3 Continuous Usage

User satisfaction and continuous usage have been widely examined and used as surrogate measurements of mobile banking success. User satisfaction for service is critical because they decide on their future responses regarding to their continuance intention based on their experience (Raman & Aashish, 2021). DeLone & McLean (2003) focused that user satisfaction and usage are closely interrelated, and this relationship is rigorously researched in information system literature.

Susanto, Chang and Ha (2016) defined as one of the factors to use technologies is user satisfaction. As a satisfied customer is more likely to continue using a service or product, user satisfaction with technology is also vital in influencing the adoption and continuance use of technology (Ahmed & Ali, 2017). Additionally, it was found that there is a strong correlation between contentment and continued intention to utilize mobile money transfers. The marketing literature shows that user retention and making them loyal customer to the service providers is one the most important ways of getting long-term advantage (Bansal et al., 2004). Mittal and Lassar (1998) said that attracting a new consumer cost up to five times more than that of keeping a present consumer. It is necessary to make effective strategies and keep current users for mobile banking services and services provider can enjoy the long-term benefits of having loyal consumers.

Loyal consumers often buy products or services repeatedly or raise their share of buying from a provider (Lam & Burton, 2006). There are two dimension such as attitudinal dimensions, customer repurchasing and recommendation and behavioral dimensions, a customer's intention for repurchasing and prefers a brand or service over competitors (Dick & Basu, 1994). Loyalty has been considered as a key factor in organization success and sustainability over time because the service providers have the benefit from the market share by extension their current customers (Keating et al., 2003).

2.4 User Satisfaction

User satisfaction refers to the utility for users from products or services offered by financial institutions, especially banks. Martin (1996) identified mobile convenience, accuracy, a variety of mobile application capabilities, and ease of use as the primary factors influencing user satisfaction in mobile banking. Amin (2007) points out that user satisfaction can be measures how well a product or a service supplied by a service provider meets user expectation. Ehigie (2006) noted that user's satisfaction is the overall feelings of user's contentment in a business interaction. Furthermore, user's satisfactions defined as a measure of how products and services provided by an organization meet customer's expectation. User satisfaction is an important determinant how well a bank is able to meet the user expectation concerned about the products and services offered (Skinner, 2014).

User's overall satisfaction based on experiences with the particular bank is focused on in most studies. User tend to use additional services and switch to other brands in the future when they are dissatisfied with products or services. Hansemark & Albinsson (2004) defined satisfaction as an overall user attitude toward a service provider or an emotional response to the discrepancy between an individual's expectation and actual response to the satisfaction of a particular need, aim, or desire.

User satisfaction is post-choice evaluative assessment related to a particular intention and is mostly used as part of the confirmation or disconfirmation pattern. For the service providers, satisfaction is an effective user condition, the assessment results of overall outlooks leading to the relationship between consumer and service provider (Severt, 2002). User satisfaction has been clarified as a total assessment of a company's post-buying or application of a service (Fornell, 1992). Kotler (2000) thought that consumer satisfaction results from their comparison of expectation before buying with performance awareness. Parasuraman et al. (1988) showed that a comparison procedure between perceived performance and principles would affect satisfaction.

Customarily, financial products and services have been allocated among bank branches owing to their closeness to customers, a lot of services they offered, the surplus value that the customer gets at the branch and the significant part the bank branches play in user's decisions making. From a marketing perceptive, banks are service-oriented and customer-focused corporate businesses. The role of user

satisfaction cannot be ignored because it guarantees customer retention which leads to the sustainability of the businesses (Kim & Kim, 2005).

Support by previous study, satisfaction is pointed as the individual's assessment of the provider's performance against their expectations (Agarwal et al., 2009). User satisfaction improves when the users perceive the service offered to exceed their own expectations. When Users are satisfied with banking services, they tend to believe that the bank will offer similar satisfactory experiences in the future (Portuese, 2006). Therefore, user satisfaction is a major influencing factor in making decisions regarding future purchase intentions with satisfied users having a greater likelihood of repetitive purchase (Tan et al., 2010). User satisfaction is a very important variable evaluated by users in the highly competitive banking industry. Therefore, it is one of the important factors relating to the continuous usage of mobile banking services.

2.5 User Experience

User Experience is one of the factors concerning the constant usage of mobile banking services. It is an influencing experience including of all features of the user's involvement with a product or service, getting from user's knowledge, feelings, and skills. Oliver (2010) noticed that user experience is the user's direct and indirect experience with service processes, the organization itself, the facilities, and the way the customer interacts with the organization's employees and other customers.

The user experience evolved throughout all touch points and episodes encountered during the service delivery process, according to Juttner et al. (2013). These touch points may exist before and after purchase and occur on different channels. Therefore, comprehension of user experience touch points can only be understood from a subjective experience (Lemake et al., 2011). Stein and Ramaseshan (2016) research and determined seven specific touchpoints of the user experience, such as: atmosphere, technology, communication, process, employee-customer interaction, customer-customer interaction, and product or service interaction elements. User experience is driven by the one-way connection from the service provider to the consumer, including both promotional and informative reports.

Communication elements, search, evaluation, and post-purchase phases are important for user experience in all products or services. The processes of user experience in online and offline settings are also important. There are distinguish the following elements of the process: waiting time, web- site speed, website convenience,

and service process. Slatten et al. (2009) emphasized the importance of user-employee interaction and suggest that the organization's employees must engage with their clients in order to create a pleasant experience with positive emotions and satisfaction.

Hoch (2002) highlights the product interaction elements and claims that customers gain experience in searching, viewing, using, and evaluating a product or service. This includes direct or indirect customer contact with the noticeable or unnoticeable service or product. In light of this, the defined touch points exist throughout the user's process containing the search, evaluation, purchase, and after-purchase phases. In addition, these elements are generally identified by the evaluation of several different sectors. Moreover, user experience is a moderating variable to explain users' behavior (Lie´bana-Cabanillas et al., 2014,) Fornell et al. (1986) proved that an individual's positive experience with a given item in the past will have a describing impact on the behavior toward that item.

Several studies support that a good experience with mobile banking creates positive attitudes, increases customers' self-efficacy, and influences future intentions, while a bad experience might have exactly the opposite effects. Pakkarainen et al. (2004) established that user experience is important in forming users' perceptions, regarding their expectations from mobile banking users. Zhou et al. (2007) also confirmed a positive relationship between experience and satisfaction, in especially, higher experience leads to increased satisfaction with services and an increased number of completed purchases. Therefore, the user experience factor is one the important factors relating to the continuous usage of mobile banking services.

2.6 Empirical Studies on Adoption of Mobile Banking Service

This section involves empirical studies concerning consumer adoption and continuous usages of mobile banking services. The previous researchers explored the influencing factors on customer adoption of mobile banking services, user experience, and customer satisfaction.

Firstly, the influencing factors on the use of Mobile Banking: The case of SMS-based Mobile Banking are presented. Yu (2009) discovered that user perceptions of the utility of SMS mobile banking are influenced by service quality and service awareness, which in turn affect intention to use and adoption.

Makongoro (2014) studied the factors Influencing Customer Adoption of Mobile Banking Services in Tanzania. The results showed that perceived risk, relative

advantage and convenience are the determinant factors in influencing consumers' adoption decisions. In order to further support effective service delivery and raise mobile banking service uptake, this study advised banks in Tanzania to make significant investments in mobile banking and other information technology advancements.

In order to understand the moderating impact of user experience on satisfaction with electronic banking: empirical data from the Spanish instance, Cabanillas et al. (2015) undertook the research. The results demonstrated the moderating influence of electronic banking expertise on the link between the hypothesized factors (easy of access, trust, ease of use, and usefulness).

Poromatikl (2015) examined the factors affecting continuance usage intention towards mobile banking in Thailand are satisfaction, trust, and perceived risk. This study found out that Thai consumers perceive risk, it would not negatively impact on their satisfaction but they tend to discontinued using mobile banking. The outcome demonstrated that there was a clear grasp of how Thai users formed their intentions to continue using mobile banking.

Shaikh and Karjaluoto (2016) examined mobile banking services continuous usage: This study found that self-congruence and perceived value, perceived risk and perceived value, continuous usage, and continuous usage and word-of-mouth all have direct correlations. This study demonstrated that the association between perceived value and ongoing use of mobile banking services is moderated by the frequency of use and experience.

William (2017) studied that the influence of Consumer Trust on Mobile Payments Adoption: The Case of Urban Tanzania. The study found that consumers develop trust in mobile payment systems through characteristics of mobile payment vendors, characteristics of mobile technology, confidentiality and Integrity of Mobile payment systems. The researcher suggested that consumer trust has strong influence on mobile payment adoption.

Yusuf (2017) investigated Factors influencing mobile banking adoption in Ethiopia: a perceptive on commercial banks customers in Addis Ababa. The study found that Perceived Ease of use, Awareness, Trust had a positive impact on mobile banking adoption while perceived risk was found to have a negative impact. Whereas, Perceived Usefulness found no effect on the intention to adopt mobile banking.

Kyguoliene and Makutenas (2017), studied that measuring Generation-Y customer experience in the banking sector. The study showed that the touch points such

as atmosphere, technologies, communication, processes, employee-customer interactions, customer interactions, and product interactions are proposed for customer experience measurement in the banking sector. The study major finding is important from a strategic point of view and assessment of customer experience on every touch-point identified improvement gaps.

Genevieve (2018) investigated Factors influencing the adoption of mobile banking in Kenya. This study concluded that perceived ease of use of mobile banking and social influence of mobile banking had a positive and statistically significant influence on the adoption of mobile banking in Kenya.

Holm and Karlsson (2019) examined Mobile Banking Adoption in an Emerging Economy: An Empirical Analysis of Users in Myanmar. According to their study, influence did not show any consistent results, but external barriers such as regulations and cash-based society were evidently important factors for adoption. Moreover, experience showed to have an impact on the participants' attitude and the adoption of mobile banking. The researcher suggested perceived usefulness and perceived ease of use are important factors for the usage of mobile banking.

Foroughi and Iranmanesh (2019) studied the understanding the determinants of mobile banking continuance usage intention. The study found that that users' confirmation of expectations regarding m-banking services had a positive effect on their satisfaction with mobile banking. In the area of mobile banking, self-efficacy and channel relevance were additional significant factors of continuation intention.

Islam (2019) investigated the factors affecting customer experience in mobile banking. This study was examined to identify the factors concerning the experience of mobile banking users in Bangladesh. This study demonstrated that the factor analysis found five elements that were connected to Bangladesh's experience with mobile banking. The elements include an easy-to-use system, quick and accurate transactions, dependability, transaction security in an ATM booth, and technical difficulties.

Linn (2020) studied the impact of Technological Innovation with Products and Processes on Banking in Myanmar. This study found that banks should focus on investment in IT infrastructure in their expansion efforts rather than the opening of new branches. The study produced a strong positive and significant correlation between usage of technological innovations, perceived usefulness of the innovations, perceived service quality, and customer satisfaction and loyalty.

Chen and Hsiang (2022) studied exploring the impact of perceived risk on users' mobile payment adoption. This study found that the users' decision weights on the main factors from high to low are perceived usefulness, perceived ease of use, facilitating conditions, perceived risk, and social influence. This study suggests that service providers should strengthen the most important sub-factors of perceived usefulness and perceived ease of use to reduce the negative impact and increase the adoption rate of mobile payment. This study identified five main factors and eighteen sub-factors through a literature review.

The summary of the findings of previous studies on consumer adoption, user experience, satisfaction and continuous usage is presented in Table (2.1).

Table (2.1) Empirical Studies on Consumer Adoption and Continuous Usage of Mobile Banking Services

Sr. No.	Authors	Research Areas	Findings
1	Yu (2009)	To find the factors that influence the adoption of Mobile Banking	The data analysis's findings add to the body of knowledge in the field by showing how context-specific elements like service awareness and quality are affecting users' perceptions of SMS mobile banking's utility, which in turn affects their intention to use and adoption.
2	Makongoro (2014)	To explore the factors that influence the adoption of Mobile Banking Services in Tanzania	The findings of this study pointed to perceived risk, relative advantage, and convenience as the main influences on consumers' adoption choices.
3	Cabanillas et al., (2015)	The moderating effect of user experience on satisfaction with electronic banking: empirical evidence from the Spanish	The study found that the importance of user experience effect on the satisfaction. Furthermore, consumers with no experience in the use of electronic banking systems will need greater efforts to adopt this innovation.

Table (2.1) Empirical Studies on Consumer Adoption and Continuous Usage of Mobile Banking Services (Continued)

Sr. No.	Authors	Research Areas	Findings
4	Poromatikl (2015)	Factors affecting continuance usage intention towards mobile banking	In order to increase the volume of transactions, customer satisfaction, and loyalty, banks can use the study's findings to better understand the issues that prevent users from continuing to use mobile banking services.
5	Shaik & Karjaluoto (2016)	Mobile banking services continuous usage – Case study of Finland	The study found that understand what users' value can promote the establishment of long-term user relationships and perceive value influences consumer use intentions toward mobile banking.
6	William (2017)	Influence of consumer trust on mobile payments adoption.	The study indicates that policies and strategies to enhance consumer trust are crucial and they will heavily influence the adoption of mobile payment. The study based on consumers trust and its influence on adoption of mobile payment. Additionally, the study found that consumer trust is a crucial factor to influence consumers to adopt mobile payment adoption.
7	Yusuf (2017)	To investigate factors that impact mobile banking adoption in Ethiopia:	The study has revealed that even if this new platform has brought more convenient, time saving, efficient features, there exist other important factors that determine its rate of adoption.

Table (2.1) Empirical Studies on Consumer Adoption and Continuous Usage of Mobile Banking Services (Continued)

Sr. No.	Authors	Research Areas	Findings
8	Kygyollene & Makutenas (2017)	To measure Generation-Y Customer experience of in the Banking Sector	The results found that, Gen-Y customer experience using banking services is positive, there are no differences in customer experience comparing different banks.
9	Genevieve (2018)	Factors that influence the adoption of mobile banking financial services in Kenyn	The key finding was that mobile banking adoption in Nairobi was positively and statistically significantly influenced by perceived ease of use of mobile banking and social effect of mobile banking.
10	Holm & Karlsson (2019)	Mobile Banking Adoption in Myanmar	According to the report, perceptions of usefulness and usability are key drivers of mobile banking usage. Furthermore, experience showed to have an impact on the participants' attitude and the adoption of mobile banking.
11	Foroughi et al. (2019)	To comprehend the determinants of continuous use of mobile banking	The results found that perceived ease of use has no effect on PU and attitude in the post-adoption stage. In the area of mobile banking, self-efficacy and channel relevance were also significant factors of continuance intention. and attitude at the post-adoption period are unaffected by perceived ease of usage.

Table (2.1) Empirical Studies on Consumer Adoption and Continuous Usage of Mobile Banking Services (Continued)

Sr.No.	Authors	Research Areas	Findings
12	Islam (2019)	To understand the determinants of mobile banking continuance usage intention	The study concluded that mobile banking service providers should meet their users' pre-adoption expectations and if mobile banking service providers do not meet users' pre-adoption expectations, then it is possible that they will experience a continuing loss of users.
13	Linn (2020)	To explore the impact of Technological Innovation in Banking in Myanmar	The findings of this study reveal a strong positive and significant correlation between usage of technological innovations, perceived usefulness of the innovations, perceived service quality, and customer satisfaction and loyalty.
14	Chen & Hsiang (2022)	To find the impact of perceived risk on mobile payment adoption.	The findings showed that when perceived usefulness and reported ease of use are both high, the negative effects of perceived risk can be mitigated more successfully.

Source: Various empirical studies

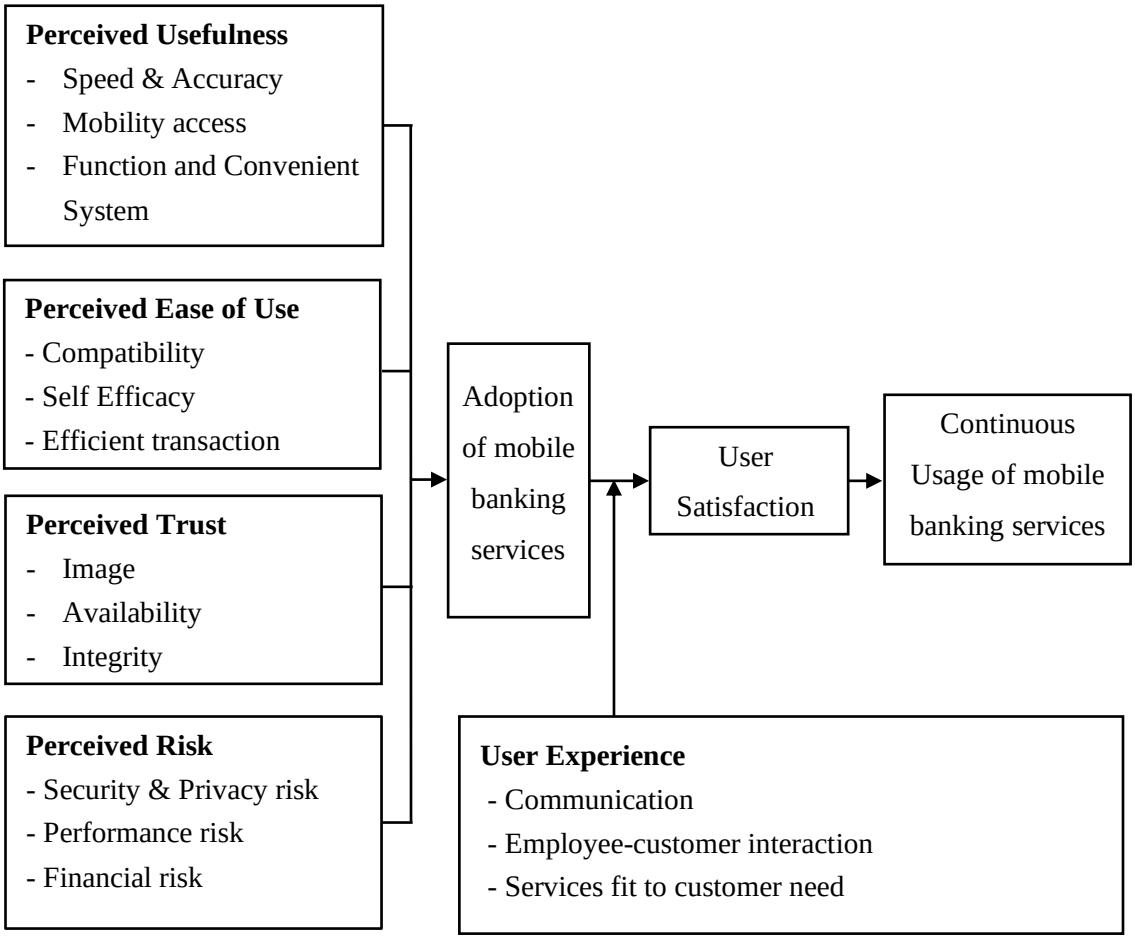
According to the empirical studies conducted especially for mobile banking sector in order to prove how consumer adoption and their continuous usage of mobile banking services were interactively related to each other, the area of particular researches and their findings done from 2009 to 2022 shown above in the Table (2.1), all findings of these studies disclosed that there is a strong positive and significant correlation between usage of technological innovations, perceived usefulness of the innovations, perceived service quality, and customer satisfaction and loyalty.

More than that, those findings helped us to understand about banks and know the factors affecting continuance of usage of mobile banking services as a major issue in order to improve the number of transactions, satisfaction, as well as customer loyalty. As a result, those findings of empirical studies can point out us that mobile banking service providers should meet their users' pre-adoption expectations and if mobile banking service providers do not meet users' pre-adoption expectations, then it is possible that they will experience a continuing loss of users. In conclusion, all those literature reviews, theoretical studies and empirical studies regarding how influencing factors of consumer adoption and their continuous usage of mobile banking services and their relation to each other for gaining customer satisfaction and loyalty were brought into back in order to draw a whole picture of the conceptual framework of this study as follow.

2.7 Conceptual Framework of the Study

This study focuses on examining factors affecting consumer adoption and continuous usage of mobile banking services. Conceptual framework in this study was initially based on the Technological Acceptance Model (Davis,1989) and Expectation confirmation theory (Oliver, 1980). A conceptual model applied in this study is presented in Figure (2.9).

Figure (2.9) Conceptual Framework of the Study



Source: Own Compilation based on Previous Studies (2020)

The conceptual framework was constructed to analyze the objective of the study. This study proposed a research model that explains the determinants of adoption of mobile banking and retention of existing relationships between users and services providers (banks). Mobile banking retention means continuous usage of mobile banking from information system acceptance perspective.

First, it investigates the effects of system related variables on adoption of mobile banking using multiple liner regression (MLR). The dependent variable concerning influencing factors include four factors: Perceived Usefulness, Perceived Ease of Use, and Perceived Risks, which are derived from Davis's Technology Acceptance Model, and Perceived Trust, derived from Zucker's Trust Production theory.

Second, it examines the effects of mobile banking adoption and user satisfactions using simple linear regression (SLR). Mobile banking adoption is independent variable and user satisfaction is dependent variable. Third, the moderating effect of user experience is tested on the relationship between adoption of mobile

banking services and user satisfaction by applying hierarchical regression analysis. Finally, it investigates the effects of user satisfactions on continuous usage of mobile banking service by using simple linear regression.

The following are some working definitions in this study.

- Perceived usefulness: the benefits of user perception attaining from the new technology usage. It refers to the user tends to use or not use a system to the extent they believe it will help do their task well.
- Perceived ease of use: the user perception on the difficulty level faced when using a new technology. It refers to the degree to which a person accept that engaging in online transactions via mobile banking would be free of effort.
- Perceived trust: the feeling of security and willingness depending on someone or something.
- Perceived risk: the user' expectation of facing a loss in the results of using mobile banking.
- Satisfaction: the post choice evaluative judgement examining a specific purpose or decision.
- Continuous usage: the intention of post consumption using mobile banking services.
- Speed: the process of easy, convenient and faster for mobile banking to do easy task.
- Mobility access: mobile banking system anytime, anywhere through mobile device.
- Function and convenient system: creating the value for customer' banking transaction as a wireless service delivery channel.
- Compatibility: the level of innovation being consistent with adopter's needs, values, experiences and wishes.
- Self-efficacy: individuals' self- confidence in performing behaviour.
- Efficient transaction: transaction must be private and secure to insure the acceptance of user
- Image: the overall impression formed in the user's mind about a firm.
- Integrity: users' perceptions of fair, honest and adhere to reasonable conditions of transactions provided by the bank.

- Availability: the prevention of loss of access to resources and information ensuring available information when needed.
- Financial risk: the potential for monetary loss due to transaction errors or bank account misuse.
- Security and privacy risk: the potential loss due to fraud or a hacker compromising the security of a mobile banking user.
- Performance risk: the losses incurred by deficiencies or main functions of mobile banking.
- Adoption: the acceptance and continued use of a product, service or idea.
- Communication: promotional message, Information message and advertising visibility for user.
- Employee-customer interaction: helpful employee, personalized services and argumentative employee provide for the mobile banking user.
- Services fit to user need: service quality, service assortment and service attractiveness are user need.

Research Hypotheses

Based on the literature review, a number of research hypotheses are developed from the findings of the previous studies. In this study, seven hypotheses are identified from the adoption of mobile banking services. The hypotheses are as follows:

H1: Perceived usefulness has a positive effect on the adoption of mobile banking services.

H2: Perceived ease of use has a positive effect on the adoption of mobile banking services.

H3: Perceived trust has a positive effect on the adoption of mobile banking services.

H4: Perceived risk has a negative effect on the adoption of mobile banking services.

H5: Adoption of mobile banking services has a positive effect on user satisfaction.

H6: User experience has a moderating effect on the relationship between adoption of mobile banking and user satisfaction.

H7: User satisfaction has a positive effect on continuous usage of mobile banking services.

All research hypotheses will be tested by using particular statistical methods and techniques to support and fulfil each objective of the study described in Chapter One.

CHAPTER III
OVERVIEW OF MOBILE BANKING SERVICES IN MYANMAR

This chapter overviews of mobile banking services in Myanmar. It consists of introduces with the mobile banking, key players in the mobile banking services, development of mobile banking services and the current situation of mobile banking services in Myanmar. Then, the second section discusses the selected private bank's mobile banking services, followed by the explanation the mobile banking applications of selected private banks in Yangon.

3.1 Mobile Banking

Mobile banking is only one type of mobile money service: it allows customers of a financial institution to access their accounts and to perform transfers and payments. Mobile banking services can be described as the newest services in modern banking and it can be used for performing banking transactions through mobile devices such as a smartphone or tablet. Mobile phone facility is an easy and faster means of communication and transacts the business anywhere, anytime at a reasonable cost.

According to Mallat et al. (2004), users will be able to obtain and interact with mobile services whenever and wherever which in turn initiate great value for users. In addition, Shaikh and Karjaluoto (2015) advocates that mobile banking mentions to the use of mobile devices in facilitating access to bank accounts by customers as well as conducting transactions such as checking account status, transfer of money, making payments, and trading on stocks among others primarily on a mobile device. Sulistiyarini (2013) notes that mobile banking is a part of electronic-banking technology via the latest wireless by using a mobile phone to support ease of banking activities.

Mobile banking is a system that enables customers to offering banking services of make deposits, withdraw and to remit funds through a mobile device. It is a financial service where the bank customers perform manage account information and services,

bill payment services, transfer of money other businesses according to instruction sent through the mobile phone. This service can be easily used whether in the home country or abroad. Nowadays many banks have radically shifted from traditional banking to branches mode of banking.

3.2 Key Players in the Mobile Banking Services

The provision of mobile banking services is a collective achievement of multiple players, such as mobile network operators, financial institutions and regulators. They all play a dispensable role in mobile banking services in Myanmar.

Mobile Network Operators

Mobile network operator (MNO) means an entity licensed under the Telecommunications Law (Central Bank of Myanmar, 2016). MPT is Myanmar's biggest telecom service provided MPT offers 2G,3G and limited services. As of October 2017, MPT applied for mobile financial service license and they plan on launching their digital financial services in 2018. Telenor, which now named into ATOM, is Myanmar's second biggest telecon service provider. It offers 2G,3G and limited 4G services for users and together with Yoma, it created the joint venture Wave money, which obtained in October 2016. The mobile financial service license to operate for transfer money. Ooredoo is the third largest mobile network operator in Myanmar with 18% of market share. Ooredoo chose to launch offering 3G,4G services only, given the high smartphone penetration in the market. In September 2017 Ooredoo Myanmar launched their mobile money service for customers. Mytel is the fourth mobile network operators launched in 2018. It targeting customer for rural areas, particularly those inaccessible to Telenor and Ooredoo (world bank, 2020). Currently, MPT, Ooredoo, ATOM and Mytel are main rivals which competes for the mobile banking service market in Myanmar. (Myanmar analytical report 2017)

The telecommunication operators are experiencing a progressive reduction in revenues due to increased competition, a switch to flat rates, reduction in the use of SMS, and so on. Therefore, they have a great interest in finding new sources of revenue that will open up to new business. Mobile banking is another opportunity for telecoms to redefine the competitive balance around the object "mobile phone": historically guarded by the telecommunication organizations, but besieged by other parties.

Financial Institutions

Financial Institution defines as an enterprise established in the State, whose corporate objective is intermediation on the money or capital markets through the collection of financial resources from third parties for investment on their own account in credit operations, credit and public debt instruments, securities, or other authorized financial activities (Banking Sector in Myanmar, 2017). For this institutions, mobile banking represents an opportunity to reduce costs, grow the use of electronic money, and improve intermediation margins It is important for financial institutions to consider the value that the mobile brings in terms of the relationship with the customer. In most countries, retail payment systems have been dominated by banks whose primary function is to gather deposits for deployment in loans and other permissible investments. Financial institutions are best positioned to employ risk management programs that ensure regulatory compliance for money laundering and other risks.

In the bank-led model, the financial institution controls the customer relationship and provides mobile services primarily as a new channel to existing services. Here, one of the agents, the mobile operator, provides the channel for domestic transfers and international remittances to boast the country's cashless transactions and implement the e-government system, to raise financial inclusion for the under-banked and unbanked population in the rural area around the country in order to reduce the poverty.

Regulators

Regulators also fill a critical role in the mobile banking services ecosystem, as they work to strike a balance between providing prudential, risk-based oversight and encouraging innovation, efficiency, and financial inclusion. Mobile transfer systems are giving rise to new challenges in how to establish effective regulatory infrastructures to provide oversight for converged banking and telecom industries in a cross-border context.

The Central Bank of Myanmar issued a regulation on mobile financial services on 30 March 2016, to create an enabling regulatory environment for efficient and safe mobile financial services. The regulation allows mobile financial service providers to offer a number of services including cash transfers and domestic payments. However, in order for the banking sector to grow, many factors need to be improved, such as good customer services, trust building, and a wide distribution network.

Additionally, in accordance with Sections 40 and 79 of the Central Bank of Myanmar Law, Sections 5, 129, and 130 of the Financial Institutions Law, the Mobile Financial Services Regulations, the Mobile Banking Directives, and the Electronic Card Payment Directives, the Central Bank of Myanmar permits mobile banking services to ensure efficient payment. In Myanmar, technological innovations have been a key aspect of the operations of banks. Myanmar banks have adopted new technologies in efforts to cut down on operational costs as well as to improve their efficiency.

3.3 Development of Mobile Banking Services in Myanmar

Mobile Banking service is an electronic service provided by banks to allow users to perform transactions over the internet through mobile applications. There are a lot of benefits to using mobile banking. With mobile banking, users can conduct banking transactions from the comfort of their homes. Mobile banking provides a comprehensive range of online transactions and information that can help users better manage of his/her financial transactions. Users with bank account numbers register for and use mobile banking. All accounts with the same ID can be linked with mobile banking. Bank's users can register for mobile banking at any branches. Banking experts accept that mobile banking will eventually believe an important role in the development and evolution of business in Myanmar.

In Myanmar, online banking service delivered to customers through the bank was started in 2012. There are three leading private banks, KBZ, AYA, and CB Banks, they have started introducing internet banking, and mobile banking channels to the bank customer since 2012. However, the popularity of the usage of mobile banking started in 2015. Customer adoption of mobile banking is gradually expending from 2014 onward. Now, MAB bank, UAB bank, and others banks offer mobile banking services.

The early stages of mobile banking features in Myanmar will be similar to the traditional banking services such as balance inquiry, payment, funds transfer, and statement. Eventually, as it develops, mobile banking will become a medium of exchange of funds, provide trade parties with opportunities to use debit or credit transactions, and help introduce e-commerce to businesses in Myanmar. In addition, the government of Myanmar also aimed to get the following advancement in financial sectors.

To become a modernization and harmonization the Myanmar government has permitted to open the following new telecommunication providers such as Ooredoo,

ATOM, MEC, and Mitel, they have plans to offer mobile banking services in conjunction with financial institutions once their operation. As the number of smartphone users in the country increases, Myanmar banks are now trying to take advantage of this trend by offering mobile banking services to their users. Among mobile banking services, the latest entry to the mobile banking arena is the launch of mobile money and transfer following the mobile banking directive by the Central Bank of Myanmar in December 2016. The mobile banking directive restricts the amount per transfer to 500,000 and allows up to three transactions per day. However, the total withdrawal amount in a day cannot exceed 1,000,000 Kyats.

In the establishment of supporting infrastructures, telecommunication infrastructure is important role for the development of mobile banking systems. Although Myanmar remains one of the least developed Asian countries in terms of infrastructure, it has made great progress in the past few years. The period between 2013 and 2017 witnessed rapid growth in Myanmar's telecommunications infrastructure. Today, the country accesses internet and telecommunication services through fiber, towers, and broadband. Currently, there are over 32,000 kilometers of fiber and over 3,000 towers built around the country. There are over 14 million internet users representing 25.1% of the population. Mobile penetration is high with 47 million people having access to a cellular phone and an average of 87 subscriptions per 100 inhabitants (Central Intelligence Agency, 2019).

Thus, the country has the suitable infrastructure to support the development of banking innovations. As a result, banks have provided numerous financial transactions especially mobile banking services in Myanmar.

3.4 Current Situation of Mobile Banking Services in Myanmar

With the liberalization of the telecom industry in 2014, banks started to look for ways to capitalize on the proliferation of smartphones, which has had a significant impact on financial technology (fintech). As part of the government’s reform program, the telecommunications sector was liberalized to attract FDIs, create employment opportunities, support IT development, and promote ICT as a catalyst for social and economic change by enacting the Telecommunications Law as a legal basis on October 8, 2013 in Myanmar. As part of the Myanmar Financial Inclusion Roadmap 2019-2023,

Myanmar intended to seek financial solutions relating to digital-driven financial inclusions.

In 2013, CBM allowed Myanmar banks to operate mobile banking services. Under this model, banks are required to obtain a permission from CBM to operate mobile banking services, either on their own or in partnership with a mobile money business, using technological support from Mobile Network Operators (MNOs) and mobile banking solution providers to develop mobile banking products and platforms. Banks may engage with Non-Government Organizations (NGOs), governmental post offices and MNOs as their cash points, agents or business partners. CBM allowed banks to provide mobile banking services such as remittances, debiting and crediting of cash, and payments. Today, most Myanmar banks already operate mobile banking services and have linkages with Mobile Financial Service Providers (MFSPs).

Some banks also have their own branded e-banking platforms, namely: AGD Pay (Asia Green Development Bank), CB Pay (Cooperative Bank), KBZ Pay (Kanbawza Bank), and City Pay (Yangon City Development Bank). UAB Bank started Sai Sai Pay and UAB pay in 2020. These platforms are linked to customers' bank accounts and can provide remittances, cash in and out services, person-to-person payments within the bank, mobile top-up and bill payment services.

As a subsequent process, Central Bank of Myanmar permits mobile banking services such as domestic and international inward remittances, debiting and crediting of cash in local currency through agents, bank branches, ATMs, mobile operator branches, payments from person to business and vice versa, government payments to individuals and vice versa, payments between individuals, repayment of loans from microfinance, and other small-scale payments such as health insurance.

In the present day, mobile banking is one of the major services in banks. Several banks are entering the local market with mobile banking financial services to customers. Most users use mobile banking instead of purchasing or paying bills in traditional commerce. Therefore, Myanmar banks are facing with a lot of competitors in launching new innovations such as mobile banking and other applications in order to make business development.

3.5 Mobile Banking Services provided by Selected Private Banks in Myanmar

In this section presents the history of selected private banks, benefit of mobile banking services and types of mobile banking services.

3.5.1 Kanbawza (KBZ) Bank

Kanbawza (KBZ) Bank was founded on 1 July 1994 in Taunggyi, Southern Shan State. KBZ's headquarter was relocated to Yangon in 2000. According to GIZ (2021), it is now the largest commercial bank in Myanmar in terms of assets (MMK 11,309,440.96 million in 2020). KBZ bank offers digital payment functions such as mobile and internet banking, as well as support for e-commerce. KBZ had the largest branch network in Myanmar with more than 500 branches and 20000 employees in 2020. There are two types of mobile banking in KBZ bank, personal and corporate mobile banking.

Bank users can get benefits by using mobile banking at KBZ Bank. Those benefits are service available at all times (24/7), saving time and cost of traveling, instant statement, payment (bulk payment) and transfer, managing of customers' money would be done easily from the mobile application, able to receive instant notification for any action customers have done, able to get account statement, able to use everywhere, easy reconciliation and so on. In recent days, these are the list of available personal mobile banking services in KBZ bank; check account balance, download (core banking statement) bank statements, checkbook requests, own account transfer, internal account transfer, recognize updated foreign exchange rate, deposit details, and loan statement.

Mobile banking services is one of the safe, useful and convenient digital banking services among Myanmar's leading financial services providers. It is available to corporate customers for maximum business efficiency. There are no registration fees for corporate mobile banking. The available functions and features of mobile banking for corporate customers are balanced enquires which can check account balance, transaction history, and account details 24 hours, 7 days a week available for both MMK and USD, and fund transfer.

Users can transfer of money between own account as well as transfer funds to other beneficiaries' account with KBZ at Oracle branch with 17 digits of the account number. Cheque book request which can request a cheque book online. Payroll (bulk payments) which is able to make payments to a number of beneficiaries such as salary

payments to employees' mobile accounts or saving accounts within KBZ account at Oracle branch 17 digits of account number notification which is receiving SMS and email alerts relating all online banking activities, standing order payments which are able to create beneficiary templates for regular payments. (Information is derived from Kanbawza's own website:www.kbzbank.com)

3.5.2 Ayeyarwady (AYA) Bank

The Central Bank of Myanmar issued a license to Ayeyarwady (AYA) Bank on July 2, 2010, and it was renewed under the Financial Institutions Law 2016 as a full-service universal bank. The bank has grown rapidly over the past seven years to become the second largest in the country. According to GIZ (2021), it is the second-largest bank in terms of total assets (MMK 4,173,888.62 million in 2020). The whole spectrum of retail and commercial services, as well as worldwide standards in its governance and operations, are provided by AYA Bank. AYA Bank had 261 branches and more than 8500 employees in May 2020.

AYA mobile banking is an electronic delivery channel whereby users of the bank are able to perform real-time banking transactions via mobile devices with access to the internet. AYA bank provides to mobile banking users the following benefit of using these services: convenience which means accessing accounts and conducting transactions at any time and any place of users' convenience; safe which is secured channels utilized so that user's transactions and data are fully retained from loss or theft; save time and cost which users do not need to go to the bank's premise to conduct transactions, saving time and money; efficient which transaction is done in real-time.

The eligible users to apply for mobile banking of AYA banking are individual, joint accounts, private limited companies, and non-profit organizations. There is a requirement to use AYA mobile banking which is a savings or current account with AYA bank, internet access and browsers, pcs, laptops, smartphones, or any devices with the ability to access the internet, registration for mobile banking services with AYA bank whereby users will be given a username and password for logging into mobile banking and a security token form generating a One Time Password when performing the transaction.

Moreover, AYA service provides mobile banking accounts to the user when a new user comes to the branch to open an account. When users are not clear about mobile banking services or need more information, AYA staffs explain in person or via phone

call. In recent days, AYA mobile banking can provide the following services: check account balance, transfer money between accounts and other accounts at AYA bank, bill payment (YCDC, School Fees, Myanmar net, 4 TV forever, AYA credit card, Travel and Tour, etc.), buy phone top-up (MPT, Ooredoo, ATOM, Mytel), view transaction history of banking accounts, ATM locations, branch locations, cash management services, and online payment. AYA mobile banking 2.0, also referred to as AYA mobile banking. Users can request money from other AYA account holders at AYA mobile banking by submitting the user's bank account QR code and asking the payee to simply scan and pay. It is possible to make easy payments using a QR code. For Yangon, Mandalay, and Nay Pyi Taw area, remittance fees on AYA mobile banking are free for services. (Information is derived from AYA's own website:www.ayabank.com)

3.5.3 Co-operative Bank (CB)

Co-operative Bank (CB) was established in August 1992 under the guidance of the Ministry of Co-operatives. There are also Co-operatives Farmers Bank and Co-operative Promoters Bank under the Ministry of Co-operatives which were operative Promoters Bank under the Ministry of Co-operatives which were established in 1996. According to GIZ (2021), it is the third largest bank in terms of total assets (MMK 2,713,104.21 million in 2020). CB bank had over 9000 employees and 240 branches in 2020. CB bank introduced the nation's first internet banking platform and mobile banking app. It has changed the customer's perception of the banking industry in Myanmar. Therefore, CB is one of the pioneer banks of core banking users in Myanmar and the initial adopter of technology for the innovation of products and services.

CB bank began introducing ATMs in Myanmar in 2011, followed by accepting Visa, Master Card, and China Union Pay through its point-of-sale terminals, and was the first to adopt centralized core banking systems in 2012. Co-operative Bank (CB) is also operating internet banking and mobile banking services and said it has received positive feedback from users. There are two types of mobile banking in CB bank personal banking and business banking. CB bank always tries to serve the best and the most secure services to all mobile banking users for their banking transactions. Now CB bank introduced mobile banking services for all people in our country to manage their banking in convenience and secure ways. CB bank's mobile banking is very simple, instant, safe, and fast. It can be applied on all mobile devices. Customers can

manage their finance, and their accounts wherever and whenever with the best security system by using CB bank mobile banking.

In recent days, CB bank mobile banking can provide the following services: check account balance, view transaction history of banking account, transfer money between accounts and other accounts at CB bank, transfer funds to another local bank account, pay bill, inquiry on the interest rate and foreign exchange rates, update personal information and apply for E-statement for a banking account. CB bank's mobile banking is a convenient way to do banking from the comfort of an office or anywhere, anytime. Also, avoid the queue or delays and try simple and secure mobile banking facilities for an unmatched online baking experience. CB bank's mobile banking makes banking transactions fast, simple, and reliable for mobile banking customers. (Information is derived from CB's own website:www.cbbank.com)

3.5.4 Myanmar Apex Bank (MAB)

Myanmar Apex Bank Ltd (MAB) was incorporated on 2nd July 2010 and opened its first branch office in Naypyitaw on 17th August 2010. According to GIZ (2021), it is the fifth largest bank in terms of total assets (MMK 1,592,427.20 million in 2020). Since its inception, it has extended its branch network steadily to facilitate commercial development and investment across all of Myanmar as well as to better serve our growing customer base through a larger banking network. The bank had over 3200 employees and opened 102 branches in 2020.

MAB launched its mobile banking service in July 2016. The first mobile bank service which links mobile wallet with current bank account is MAB bank. Because it targets both account and non-account holders, MAB Bank can also be utilized by customers without an account at MAB. The service can be enjoyed as soon as the users install the mobile banking application in their smart phones and make mobile banking account according to instructions. All mobile banking users can transfer money to both account holders and non-account holders through the agents and branches around the country.

MAB Mobile Banking Service can be used with any types of phones whether keypad phones or smartphones and any types of SIM cards. It can be downloaded from Google Play Store for Android Version and Apple App Store for iOS version. The MAB's mobile banking channels are application and SMS. MAB's mobile banking service offers both financial and non-financial transactions. Financial transactions

include money transfer and payment services. Non-financial transactions include banking services such as statement request and inquiry services about deposit rate, foreign exchange rate and interest rate. The users of MAB mobile bank applications can easily find special offers and deals such as latest promotion at MAB branches, ATMs, Agents, Merchants. MAB's mobile banking services are provided, money transfer, payment services, banking services and inquiry services. (Information is derived from MAB's own website:www.mabbank.com)

3.5.5 United Amara Bank (UAB)

United Amara Bank (UAB) owned by the IGE group was established in August 2010. UAB is one of the best Trade Finance banks in Myanmar committed to providing tailored financing options. According to GIZ (2021), it is the seventh-largest bank in terms of total assets (MMK 866,604.46 million in 2020). UAB Bank had over 78 branches and employed over 2400 employees in 2020.

United Amara Bank obtained a principal license from VISA and MasterCard for the acquiring business in 2013. Together with traditional deposits and loan products, UAB provides Online Banking and Mobile Banking with improved service levels for customers. UAB is doing domestic as well as international banking businesses such as accepting deposits, granting loans, advancing international trade financing, etc. In December 2012, United Amara Bank started sending money abroad through its collaboration with Western Union Payment Inc.

In Myanmar, 24th May 2017, UAB bank officially announced the launch of UAB mobile**.** Designed with the customer's needs in mind, from online registration to biometric login and performing banking operations with just a few touches, UAB mobile offers a straightforward and seamless experience. UAB mobile banking users will continue to innovate and invest in delivering more functions and a better experience for UAB users.

UAB bank aims to bring about economic development and the welfare of the people by mobilizing idle funds, extending loans to investment sectors, and providing efficient banking services to the public. The traditional branches are linked online via a modern Core Banking system. UAB bank users would now be able to manage their finances and perform their banking transactions anytime and anywhere securely. The UAB mobile service provides quick, round-the-clock access to user accounts from any location at any time. Using a mobile device or laptop, you can access merchant services

(UAB POS), bill payments, payroll services, online payments, and account balance checks. You can also move money between your various bank accounts and credit cards. All of these services had provided mobile banking services for Myanmar people. (uab bank, 2023) (Information is derived from UAB's own website:www.uabbank.com)

3.6 Mobile Banking Applications of Selected Private Banks in Myanmar

The researcher contented focus group discussion by meeting with related personnels from mobile banking department of the selected private bank in Myanmar. Moreover, the discussion group includes the IT related individuals of the bank who put effort on usefulness, ease of use and risk. Since the customer trust is very important in using of this services, the discussion was also raised on how the banks are building to gain customer trust in mobile banking services.

3.6.1 Usefulness of Mobile Banking Services

Based on the interview from selected manager of private banks, selected banks provide mobile banking's usefulness, which is one of the important activities of mobile banking services. Although the banks provide mobile banking with the intention of ease of use to users, the usefulness of mobile banking is important for users in determining whether they use it or not. Therefore, mobile banking usefulness plays an essential role in implementing mobile banking services in selected private banks.

Mobile banking accounts can be easily opened at every bank branch around the country. There are three options of money transfer provided by selected banks: (1) own account fund transfer (own), (2) fund transfer to other (other), and (3) Fund transfer to other bank account holders and transfer to non-account holders. Own account fund transfer (Own) is transferring the customer's money from his/her owned account to his/her other accounts via mobile banking. Fund transfer to other (other) is transferring of customer funds from his/her bank account to the bank accounts of others. The last type is transferring funds to other banks' account holders and to non-account holders. Moreover, interbank transfer using CBM.Net is able to transfer users' money to another bank through Myanmar Financial Network System (CBM-NET), called a semi-auto process. This is a payment service that allows customers to make payments to the billing organizations from a customer's bank account directly via mobile banking by filling up the bill reference provided by the billing organization.

The selected private banks provide perceived usefulness of mobile banking that can perform basic banking functions such as balance inquiry, money transfer, payment services, etc., without having to visit the bank in person. Nowadays, the banks provided the major type of mobile banking services for customers: payment services, bill payments, remit2u, gift cards, mobile top-ups, and mobile data packages. In addition, QR pay is comprised of payment services and payment of utility bills such as EPC bills, YCDC bills, and school fees, are included in bill payment. Remit2u can allow transferring of money to a non-accountholder who can withdraw money with NCR and 8-digit passcode at user nearest branch. Gift cards allow the right to purchase credit of iTunes, Steam wallet, Google play, and easy point. MPT, OOREDOO, MYTEL, and ATOM sin card users can do a mobile top-up for their phone bill and purchase an internet bill via Mobile Top-up and Mobile Data Package.

The mobile banking user are comfortable to use services which are set up 24/7 call centers for enquires. Users will be able to make payments in places such as supper markets, hospitals, convenience stores, restaurants, petrol stations and ticket and toll gates. The users of banks who lived in major cities such as Yangon, Mandalay, and Naypyidaw would be able to make electricity bill payments without the need to go to the office. Currently, the selected private banks have partnered with mobile banking network operators. This coordination upgraded the usefulness of mobile banking services for users. The provision of these service arrangements improves usefulness to the mobile banking users.

3.6.2 Ease of Use of Mobile Banking Services

Respective managers of selected private banks highlighted two main portions in perceived ease of use for mobile banking services. The first one is user interface and the second one is the mobile application. The user interface (UI) is an important and critical element for every application. It is the mediator of the interaction between the user and the application, and between the user and the environment. This implies that the user interface is the start of every available application by involving all types of media regardless of whether it is on a computer or mobile device (smartphone, tablet, etc.). User interface must be an effective communication tool toward the objective of the application in the user's perception. The selected private banks always focus on providing excellent mobile banking services to users through the user interface.

The user interface is usability features, which provide detailed explanations for users who start to use mobile banking. The first part of the user interface is the mobile banking design. Selected private banks of mobile banking design are seven criteria. These seven criteria are to meet users' needs quickly; have just-in-time information, consistent and make it easier to access, clearly distinguish selected items, make user input as simple as possible; provide a selection instead of entering text input, only show essential information, place basic browsing controls on the page and design a mobile-friendly page layout with a well-managed layout and content arrangement.

The selected private banks create the user interface. Banks hired experienced designers from abroad for designing mobile banking services to get mobile banking easily and clearly. There are guidelines that can clearly cite significant points in terms of designing an effective user interface. It is important to have a consistent approach to color, size, logo, etc., where the user can personalize their interest. The essential facts and information are sent to users in an easier manner.

An important feature of mobile banking services is perceived ease of use as an application for mobile banking. Mobile banking applications of selected private banks are available in Myanmar, English, and Chinese languages. It is accessible through a feature application that appears when the SIM tag is inserted and with the SMART application. To make the experience of using the application user-friendly, the functions are coded with different colors and arranged with a simple design. Users will be able to understand intuitively how to use an application without having to learn a lot.

The selected private bank's applications can be downloaded on the device from the online stores of many vendors, such as the Apple iPhone, Google's Android, BlackBerry, and Windows mobile stores. The selected private bank's developers and designers who strive to create positive experiences while avoiding any negative impressions depend on a variety of data that represent the user's perspective on their services.

Nowadays, users can access mobile banking in different ways; SMS, and Web-based. SMS was one of the first modes offered to users to perform simple mobile banking transactions. A user with a traditional cell phone can conduct many basic banking transactions, such as alerts or checking an account balance. In addition, web-based technology provides mobile Internet, delivered via a Wireless Application Protocol (WAP) or mobile-optimized websites (for instance, a microsite) using the browser of the smartphone. Customer-based downloaded applications, or simply

applications, streamline the mobile experience. Mobile banking work with all types of phones and SIM Cards. Whether it is a keypad phone or a smartphone, it works on all devices and all the Telcom providers in Myanmar. The selected private bank's call centers can reduce the worry and insecurity of users who did incorrect procedures on mobile banking.

3.6.3 Trust of Mobile Banking Services

One of the important factors of mobile banking services is perceived users' trust. This factor is an important factor of mobile banking services for selected private banks. These factors cannot be ignored by the banks in implementing mobile banking services. Trust are issues of user confidentially/security. Selected private banks are committed to protecting the security and confidentiality of information about the user account and bill payment services. Banks have taken reasonable and appropriate measures to ensure that any personal information is always secure on the bank's mobile banking website.

Concerning with the trust, there are two main things are provided to the users of mobile banking services: Authentication and Authorization. Those are used by the banks to build trust with the user. Selected private banks are committed to protecting the security and confidentiality of information about the user and use of mobile banking, and bill payment services. Authentication is an identity of a computer system. It is controlled by two layers. The first layer is a user name and user password and the second layer is a one-time password. The OTP is sent to customers via SMS or mobile to control the account.

Documents will be securely protected by means of a password or other authentication data issued to the customer. Various security countermeasures are being developed and used to smartphones and tablets, from more stringent security in different layers of software. The selected private banks create user awareness by knowledge sharing with customers about rules and regulations related to mobile banking services. Because of user awareness, the security of mobile banking is implemented successfully.

Selected private bank's system deploys the OTP (one-time password) technology which can ensure the security and protection of the customers. Mobile banking users who have an account with the bank can sign up for the mobile banking services after which they can access the services with a specific username, user password, and OTP pin number via bank's website. An outsider cannot breach the

mobile banking account just by knowing the users name and password. The selected private bank improves many layers of security.

In practices, user ID/password authentication of the bank's customer is not enough. It would be ideal to use a physical or virtual token. One-time passwords (OTPs) do not rely on traditional character-based passwords. OTPs must be used by the customer each time customer wants to perform sensitive transactions. When the request is received, the password is sent to the customer's phone via SMS or read on the OTP. The password expires once it has been used or once its scheduled life-cycle has expired.

Another important factor of authorization is the bank identifies the mobile banking users by their unique user ID and Password. All transactions initiated with the bank's user ID and Password will be attributed to the user. The user agrees not to give or make available user ID and Password to any other individuals, including anyone claiming to represent bank.

In order to protect the fraud, the user needs to adhere to the following guidelines: do not give out the user account information, password, or National Registration Card Number, user do not leave PC or mobile device unattended while the user is using mobile banking, and/or bill payment service, user not to leave the account information within range of others, and not to send privileged account information (account number, password, etc.) in any public or general e-mail system. The two layers of the control system, Authentication, and Authorization can upgrade the security of users' data. This control system can improve the perceived trust of customers who used mobile banking services.

The security of financial transactions, which are executed from some remote locations and through the transmission of financial information over the air, is the most complicated challenge that needs to be addressed jointly by mobile application developers, wireless network service providers, services providers' IT departments, and the users themselves. In order to cover those challenges, selected private banks create a link between their respective mobile banking system and core banking system. In some cases, the security of the financial transaction is declined because of careless usage and wrong doing by users. When mobile banking service users remit their money incorrectly, the errors are settled by the banks. Selected private banks create customer trust by means of investment in brunches and call centers, goodwill, physical features, etc.

3.6.4 Risk of Mobile Banking Services

The final part of mobile banking services is concerning with the user risk. These parts are important for banks because they are related to the trust of mobile banking service users. To reduce user risk or unexpected loss, the selected private banks provide two things: the first one is the bank management implemented by the bank, and the second task is the customer awareness of security for mobile banking services. Selected private banks identify the users by their unique User ID and Password. All transactions initiated with a user ID and Password will be attributed to the user.

To protect the risk of potential loss to the customers, banks check their accounts if withdrawal is made many times within one minute through mobile banking. Moreover, setting the daily limit for amount of money transfer, and controlling transactions are executed through biomatrix, sending OTP to users and displaying the name of receiver by the banks. To make the transactions accurate, the bank application uses multi steps data confirmation to minimize the chance of making wrong transactions. Banks design mobile banking applications with the specifications of checking the name after entering the phone number of the money receiver. That kind of double-stage verification upgrades the security and reduces the perceived risks of customers. After the transaction, the customer receives an SMS message about completing of a transaction. By sending an OTP code, mobile banking users can improve the prevention of risk of customers.

In order to minimize the customers' risk, the selected private banks give training to the bank's staff by the respective training development and knowledge-sharing department. They are trained in mobile banking services and security procedures of mobile banking. Banks apply the systems for updating balance and transactions on a continual basis. Those systems are critical for reducing the risks of mobile banking service users when they correct their savings accounts and mobile banking. Although banks endeavor for reducing risk, sometimes risk increases because of the faults of users. Therefore, user risks can be reduced not only by the banks but also by the user themselves.

Banks establish several arrangements to increase customer awareness in potential risks related with mobile banking. Customers are reminded not to give the user account password and National Registration Card Number, not to leave a mobile device unattended while the user is using mobile banking, and not to share privileged account information (account number, password, etc.) in any public or general e-mail

system. The user can contact the person who authorizes this banking service at the occurrence of any errors. However, Banks retain the right to ask the security question only when the user gets into trouble in using the banking service. The selected private banks reduce mobile banking risks in terms of control, rules, and regulations by the Central Bank.

Ultimately, the success of mobile banking services depends on creating awareness of products, confidence in using the system, and access to cash in/cash out agents in the vicinity. Banks need to establish user digital literacy and privacy so that users can build confidence and trust in the mobile financial ecosystem.

CHAPTER IV
RESEARCH METHODOLOGY

The purpose of this chapter is to describe the methodology used to achieve the research objectives of the study. To reach these objectives, the methods used in this study are presented in the following three sections: (1) research design, (2) questionnaire design and data collection, and (3) data analysis.

4.1 Research Design

The primary objectives of the study are to examine the influencing factors on the adoption of mobile banking services. Additionally, the study sought to effect of the adoption of mobile banking services on user satisfaction, to analyze the moderating effect of user experience and to analyze the effect of satisfaction on continuous usage of mobile banking services.

The research design sought to establish the relationship between dependent and independent variables. The independent variables are perceived usefulness, perceived ease of use, perceived trust, and perceived risk while the dependent variable of adoption of mobile banking services. While the independent variable is adoption of mobile banking services, dependent variable is the user satisfaction. The independent variable is the satisfaction while dependent variable is continuous usage of mobile banking services and user experience is moderating variable.

A combination of structured and unstructured methods is used to capture various aspects of the respondent perceptions of selected private banks, including a thorough literature review of previous studies. Moreover, interview of the selected private bank's users to get their opinions of mobile banking services.

4.1.1 Sample Size Determination

In this study, the population of mobile banking users in the Yangon Region was unknown. To identify the sample size, the following formula of Cochran's (1977) formula was applied.

$$n = \frac{Z^2 pq}{e^2}$$

Where,

n = sample size

z = table value for a selected alpha level at 9% confidence interval (Standard value of 1.96)

p = 0.5 is the estimated value of population proportion and

q = (1-p)

p × q = estimated of variance= 0.5 × 0.5 = 0.25

e = acceptable margin of error for proportion being estimated = 0 .05 (Errors researcher is willing to accept)

And then,

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(.05)^2} = 384.16 = 385$$

It is assumed that the response rate is 90% and then the sample size adjusted for the response rate is calculated as follows:

Sample adjusted for response rate $n_0 = \frac{n}{r} = \frac{384}{0.9} = 426.84 \approx 427$

In this study, the data was collected from 427 consumers from 11 branches in Yangon. Then, the size of the respondents from each branch was determined proportionately by number of branches. The sample allocation of user for branches is also presented in Table (4.1).

Table (4.1) Sample of Selected Private Banks Branches in Yangon

Sr. No.	Private Banks	Number of Branches in Yangon	% Branch Outlet	No. of Selected Branches	Sample Respondents
1	KBZ	140	41	5	175
2	AYA	78	22	2	94
3	CB	58	17	2	73
4	UAB	43	12	1	51
5	MAB	28	8	1	34
Total		347	100	11	427

Source: Survey Data (2022)

According to Table (4.1), the total number of branches of selected private banks are 347 branches. Among 140 branches of KBZ bank, 5 branches (41%) with 175 respondents were selected. Among 78 branches of AYA bank, 2 branches (22%) with 94 respondents were selected. Among 58 branches of CB bank, 2 branches (17%) with 73 respondents were selected. Among 43 branches of UAB bank, 1 branch (12%) with 51 respondents were selected. Among 28 branches of MAB bank, 1 branch (8%) with 34 respondents were selected.

4.1.2 Sampling Procedure

In this study, a three-stage sampling method was applied. According to the Central Bank of Myanmar (CBM), there are 10 banks of mobile banking services in Yangon. In the first stage, 5 out of 10 banks (shown in Appendix B) were selected by using the judgment sampling approach. The reasons for selecting those banks are (i) higher than 5 years of experience in mobile banking services, and (ii) greater utilization of mobile banking services compared to the other banks. In the second stage, the time of data collection was during COVID pandemic, not all banks were in operation and only some branches were opened. Thus, authorized persons in the respective bank assigned to select the banks which were in operation.

The selected private banks' respective branches were selected based on the convenience sampling method. The size of sample was determined proportionately from each branch (See. Table 4.1). In the third stage, the respondents who visited the branch were selected with the help of staff of the respective branches. Consumers who

came into the selected branches were chosen by using a 3 in 1 systematic random sampling method. Bank users who entered into the bank between 10:00 AM to 3:00 pm during the week days were selected for sample respondents. Most of them were saving account holders, and they expected to use mobile banking services for account transfer transactions.

4.2 Questionnaire Design and Data Collection

The questionnaires were administered to those sample respondents in order to have their perception of consumer adoption and continuous usage of mobile banking services. The primary data collection tool during this research was structured questionnaires. A five-point Likert scale was used to measure the perception of user on mobile banking services in Yangon with the structured questionnaire.

The questionnaire was divided into six sections with the first section establishing the respondents' profiles, the terms such as gender, age, marital status, educational status, occupation status, monthly income, bank name, usage duration, usage per month, purpose, and reason are included. The second section of the questionnaire has been aimed to describe influencing factors on the adoption of mobile banking services. The third section of the questionnaire has been aimed to describe the adoption of mobile banking services. The fourth section of the questionnaire aimed to user experience and another section of the questionnaire intends to user satisfaction and final part of the questionnaire intends to user satisfaction effect on continuous usage of mobile banking services.

The data collection instrument was entirely opened-ended question. The questionnaires have (123) items in six sections. These questions are identical to the pilot test ones. The pilot results indicated no indication of inconsistencies and ambiguities in the measurement items, so none of the items was removed or modified in the full survey. The first section has 12 questions about respondents' general information, the second section has 68 items, the third section has 8 items, the fourth section has 16 items, the fifth section has 12 items and the final section has 7 items concerning individuals' perception towards adoption and continuous usage of mobile banking services. Furthermore, to be consistent with previous research questionnaires were adapted from related literature and modified to our context. It is shows in Appendix (A).

Most of the questions to measure the adoption of mobile banking were developed from David (1989) TAM model and Extended TAM (Luam & Lin, 2004). User experience component questions based on Stein & Ramaseshan (2016) Elements of touch point. User satisfaction question statements are based on Kotler and Lee, Schiffman (2018). Continuous usage of mobile banking service questions is also constructed from Oliver's (1980) Expectation- confirmation Model.

4.3 Data Analysis Method

For the analysis, descriptive statistics methods are applied to show the frequency tables and mean values as necessary. The factor analysis is also applied for validity test. Multiple linear regression analysis is concluded for major findings of this study. In this study, each section includes different number of items and is measured on five- point Likert Scale and the scores of the result weighted are given for each scale (1 = Strongly Disagreed, 2= Disagreed, 3= Neutral, 4 = Agreed and 5 = Strongly Agreed). Based on the survey results of the study, the perception level of respondents is divided into five levels according to Best (1977). The mean value of 1.00 - 1.80 is classified as strongly disagree and expressed very low perception, 1.81 - 2.60 are categorized as disagreeing and low perception and 2.61 - 3.40 are regarded as neutral, 3.41 - 4.20 are categorized as agree and high perception level, and 4.21 - 5.00 are categorized as strongly agree and very high perception of customers.

4.4 Reliability and Validity Test

After conducting the survey, validity and reliability test for the influencing factors, satisfaction, and the effects of continuous usage of mobile banking services are carried out. In this study, Cronbach's alpha reliability test method is used to measure the internal consistency of variables and an accurate representation of the data. Validity is about having some level of similarity in the original idea of research and the actual idea after getting the results. According to Saunders. et al., (2000) the concept of validity measures whether the findings in the research are really about what they appear to be about and check the relationship between variables.

4.4.1 Reliability Test

After conducting the survey, reliability test for the influencing factor on adoption and continuous usage of mobile banking services. In this study, Conbach's

Alpha reliability test model is used to measure the internal consistency of variable and an accurate representation of the data.

The pilot study was carried out by using respondents from the mobile banking users. Using the data collected at the pilot stage, the instruments were tested for reliability by using Cronbach's Alpha reliability test. Since the reliability coefficient is above the recommended value of 7.0, the instruments can be considered sufficiently reliable.

The results of the reliability test for each dimension in this study are presented in Table (4.2). This research includes 8 dimensions that are applied in analysis: perceived usefulness, perceived ease of use, perceived trust, perceived risk, adoption of mobile banking services, user experience, customer satisfaction, and continuous usage. To achieve good consistency of variables, the reliability coefficient of Cronbach's alpha needs to be high. According to Cronbach (1951), the values of Cronbach's alpha over 0.7 are acceptable, over 0.8 is good and over 0.9 is excellent. These results are consistent with those from the pilot results, confirming the good indicator of reliability of the measurement constructs.

Table (4.2) Results from the Reliability Test

Sr. No.	Factors	No. of Items	Cronbach' Alpha Reliability Coefficient
1	Perceived Ease of Use	19	.869
2	Perceived Usefulness	16	.910
3	Perceived Trust	16	.954
4	Perceived Risk	14	.921
5	Adoption	8	.898
6	User Experience	16	.947
7	Satisfaction	12	.928
8	Continuous Usage	7	.942

Source: Survey Data (2022)

According to the above Table, Cronbach's alpha values exist in the range of 0.7 to 0.9. Thus, the reliability of these variables is reliable to use in the analysis. The reliability test is also conducted for satisfaction and continuous usage of mobile banking. According to the result, Cronbach's alpha values are also reliable to apply in this study.

4.4.2 Validity Test

Internal validity provides an answer to the questions of how precisely matching components are measured by the questions. There are several approaches available to determine the validity of the questionnaire. Content validity is one of the techniques. This approach is used to investigate the components that go into making a measurement tool. Experts in the proposed field of study usually make the decision. The Kaiser-Meyer-Olkin test for sample adequacy examines how small partial correlations between variables. For the used variables to be supported as legitimate, the Kaiser-Meyer-Olkin test value should be more than 0.5 (KMO > 0.5). Whether the correlation matrix is an identity matrix, which would suggest that the factor model is incorrect, is tested by Bartlett's test of sphericity. The Bartlett's test should not have a significance level higher than 0.05 (Sig.0.05). The results of the validity test for each dimension in this study are presented in Table (4.3).

Table (4.3) Results from the Validity Test

Sr. No.	Factors	KMO	Bartlett's Test of Sphericity	P Value
1	Perceived Ease of Use	.934	4105.27	(.000)
2	Perceived Usefulness	.923	3167.75	(.000)
3	Perceived Trust	.955	5159.42	(.000)
4	Perceived Risk	.927	3309.689	(.000)
5	Adoption	.923	1740.605	(.000)
6	User Experience	.939	5038.07	(.000)
7	Satisfaction	.943	3195.99	(.000)
8	Continuous Usage	.926	2547.04	(.000)

Source: Survey Data (2022)

All studies variables passed the sufficiency and suitability test of the KMO for the execution of factor analysis, indicating that the studies factors were suitable for factor analysis because the acquired number is more than 0.5. The correlation matrix has significant information, as shown by the number of significant Bartlett's test equal to 0.00 and being below the significance level of 0.05. This result is quite similar to those of the pilot results which indicated the sufficient validity of measurement items.

4.5 Regression Analysis

Simple linear regression is a statistical technique used to model the relationship between two variables: an independent variable (X) and a dependent variable (Y). It aims to determine how changes in the independent variable impact the dependent variable. The relationship is assumed to be linear, meaning that a straight line can be used to approximate the association between the variables. The simple linear regression model can be represented by the equation:

$$Y = \beta 0 + \beta 1X + \varepsilon$$

Where:

- Y represents the dependent variable.
- X represents the independent variable.
- β0 is the y-intercept, which denotes the value of Y when X is equal to zero.
- β1 is the slope of the line, indicating the change in Y associated with a one-unit increase in X.
- ε represents the residual, which accounts for the variability in Y that is not explained by the regression line.

The main objective of simple linear regression is to estimate the values of β0 and β1 that best fit the data. This is typically achieved through the method of least squares, which minimizes the sum of squared residuals. The estimated regression line represents the "best-fit" line that minimizes the distance between the observed data points and the predicted values on the line.

The model's validity and usefulness are assessed through several key metrics, such as the coefficient of determination (R-squared) and the standard error of the estimate. R-squared measures the proportion of the total variation in the dependent variable that is explained by the independent variable, while the standard error of the estimate provides an indication of the accuracy of the predictions made by the model.
By applying simple linear regression analysis to our data, we aim to determine the nature and magnitude of the relationship between the independent variable(s) and the dependent variable. This analysis will help us gain insights into the impact and significance of the independent variable(s) on the dependent variable, contributing to the overall understanding of our research question.

Multiple regression analysis was used to examine the effect of influencing factors on adoption of mobile banking. In addition to this multiple regression analysis, simple

regression analysis was used to test the relationship between user satisfaction and continuous usage of mobile banking services. It is an extension of simple linear regression. It is used when the value of a variable is to be predicted based on the value of two or more other variables. The variable to be predicted is called the dependent variable. The variables used to predict the value of the dependent variable are called the independent variables (Rawlings et al., 1998).

Multiple regression analysis can also determine the overall fit (variance explained) of the model and the relative contribution of each of the predictors to the total variance explained. Multiple regression analysis is based on the assumption that there is a linear relationship between both the dependent and independent variables. It also assumes no major correlation between the independent variables (Blokhin, 2019). The response variable (Y) is a random variable that is assumed to be related to the k predictor ($X_1, X_{2...}, X_k$) by a linear equation called the population regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_{k+} \varepsilon$$

$E(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_{k+} \varepsilon$ random error or residual representing everything that is not part of the model. The unknown regression coefficient, $\beta_1, \beta_2, \ldots, \beta_k$ are parameters and is denoted by Greek letters. Each coefficient j shows the change in the expected value of Y for a unit change in X_j while holding everything else constant (ceteris paribus).

To practice the multiple linear regression method, the necessary assumptions of this method must be tested. When running a multiple regression, there are some assumptions to check data in order for the analysis to be reliable and valid.

The first assumption of regression analysis is the relationship between the independent variables and the dependent variable is linear. The first assumption of Multiple Regression is that the relationship between independent variables and dependent variables can be characterized by a straight line. This assumption can be tested by looking at the influencing factors of mobile banking adoptions. This can be tested by reviewing the normal probability plot.

The next assumption, assumption 2, is that there is no multi-collinearity in data usage. This assumption is to test that the independent variables are not too highly correlated. This can be done in two ways. First, in the correlations table, correlations of more than 0.8 may be problematic. If this happens, it is needed to consider removing

one or more of the independent variables. Second, it can be conducted to more formally check on independent variables are not too highly correlated. For the assumption to be met (no multi-collinearity in independent variables), VIF scores is not higher than 10, and tolerance scores to be above 0.2.

Assumption 3 is all of the values of the residuals are independent. Durbin Watson's statistics can be checked. This test is for independent variables to be independent or uncorrelated. This statistic can be varying 65 from 0 to 4. For this assumption to be met, this value should be close to 2. Values below 1 and above 3 are cause for concern and may render the analysis invalid.

Assumption 4 stated that the variance of the residuals is constant. This assumption (assumption of homoscedasticity) is the assumption that variation in the residuals (or amount of error in the model) is similar at each point of the model. The scatter plot should be like a random array of dots. If the graph looks like a funnel shape, then it is likely that this assumption has been violated.

Assumption 5 is the values of the residuals are normally distributed. This assumption can be tested by looking at the P-P plot for the model. The closer the dots lie to the diagonal line, the closer to normal the residuals are distributed.

The last assumption, assumption 6, assumed that there are no influential cases biasing the model. This assumption can be tested by going back to the data file and looking at the Cook's distance values. Any values over 1 are likely to be significant outliers, which may place undue influence on the model, and should therefore be removed and analysis rerun. All these assumptions are tested when making the multiple regression analysis in this study.

Based on the analysis conducted shown in appendix, the multiple linear regression model meets the assumptions. In summarize, the scatter plots of the dependent variable against each independent variable demonstrate a reasonably linear relationship, indicating that the assumption of linearity is met. The data points were collected through random sampling, ensuring independence between observations, thereby satisfying the assumption of independence. The scatter plot of the residuals against the predicted values does not exhibit any discernible pattern or trend in conducted regression models, indicating that the assumption of homoscedasticity holds. The histogram and Q-Q plot of the residuals demonstrate approximate normality, suggesting that the assumption of normality is reasonably met. The assessment of the correlation matrix and variance inflation factors (VIF) reveals no significant issues of

multicollinearity among the independent variables, indicating that this assumption is satisfied. Therefore, it can be seen that all the regression models calculated in this study are consistent with the assumption.

4.6 Moderating Effect

The moderating effect is tested whether the prediction of a dependent variable, Y, from an independent variable, X, differs across levels of a third variable, M. By amplifying, decreasing, or shifting the influence of the predictor, moderator factors can change the direction and/or strength of the relationship between a predictor and an outcome. In discussions of moderation effects, factors or variables are often interacted, and the amounts of other variables in the analysis determine how one variable affects the results.

Moderation in statistics and regression analysis happens when a third variable influences the connection between two other variables. The moderator variable, or simply the moderator, is the third variable. A qualitative or quantitative variable that modifies the direction and/or strength of the relationship between dependent and independent variables is referred to scientifically as an interaction, and it has the effect of moderating a variable. Hierarchical multiple regression is used to assess the effects of a moderating variable. Multiple regression analyses that regress a random variable Y on X include an additional term to measure the moderating effect. This phrase refers to the relationship between the proposed moderating variable and X. Thus, for a response Y and two variables and moderating variable

$$Y = \beta_0 + \beta_1 X_i + \beta_2 Mi + \beta_3 \ (X_i * M_i) + \varepsilon$$

In this case, the role of moderating variable is accomplished by evaluating the significant of β_3, the parameter estimates for the interaction term.

CHAPTER V
ANALYSIS OF CONSUMER ADOPTION AND CONTINUOUS USAGE OF MOBILE BANKING SERVICES

This chapter is divided into three major sections. The first section provides the demographic characteristics of the respondents. The second section presents the results on the respondents' influencing factors on adoption of mobile banking services. The last section addresses the results of testing the proposed research objectives, descriptive analysis, correlation analysis and regression analysis.

5.1 Profile of Respondents

Profile of respondents including, gender, age, marital status, education, occupation and monthly income, are presented in Table (5.1).

According to Table (5.1), it is found that 290 out of 427 respondents are female and 137 are male. The majority of the respondents are female. The age of the respondents is grouped into five. They are 18 to 25 years, 26 to 30 years, 31 years to 40 years, 41 years to 50 years, and over 50 years. According to the survey data, the majority of respondents are the ages between 31- 40 years old. The second largest group is the ages between 26 - 30 years. The third one is ages between 41- 50 years. The fourth one is the ages between 18 years to 25 years and the lowest group is over 50 years.

As a marital status, most of the respondents are single (235 out of 427). In terms of education, the largest group of the respondents achieved graduate (254 out of 427). The occupation of respondents is classified into five groups such as business owner, government staff, private staff, student, and others. Among them, the largest group of respondents is the private staff (223 out of 427). In terms of monthly income, the smallest group of respondents receives less than 200,000 Ks. and the largest group of respondents receives more than 400,000Ks.

Table (5.1) Profile of Respondents

Sr No.	Characteristics		No. of Respondents	%
	Total Respondents		**427**	**100.00**
1	Gender	Male	137	32.1
		Female	290	67.9
2	Age	18 -25 years	48	11.2
		26-30 years	108	25.3
		31-40 years	157	36.8
		41- 50 years	87	20.4
		Above 50 years	27	6.3
3	Marital Status	Single	235	55.0
		Married	180	42.2
		Divorced/Widowed	12	2.8
4	Education	Undergraduate	6	1.4
		Graduate	254	59.5
		Master Degree	167	39.1
5	Occupation	Business owner	28	6.6
		Government staff	138	32.3
		Private staff	223	52.2
		Student	5	1.2
		Others	33	7.7
6	Monthly income (Kyats)	Less than 200,000 MMK	21	4.9
		200,001-300,000, MMK	114	26.7
		300,001-400,000MMK	119	27.9
		More than 400,000MMK	173	40.5

Source: Survey data (2022)

5.2 Experience of Respondents

Experience of respondents includes bank name, usage duration, usage per month, purposes and reason of mobile banking usage are presented in Table (5.2).

Table (5.2) Respondent Experience on Mobile Banking Services

Sr No.	Characteristics		No. of Respondents	%
	Total Respondents		**427**	**100.00**
1	Bank Name	KBZ	175	41.0
		AYA	94	22.0
		CB	73	17.09
		MAB	34	7.96
		UAB	51	11.94
2	Usage Duration	Less than one year	29	6.8
		Between 1-3 year	75	17.6
		Above 3 years	323	75.6
3	Usage per month	1-5	168	39.3
		6-10	122	28.6
		11-15	61	14.3
		16-20	22	5.2
		21-25	54	12.6
4	Purpose	Money transfer	242	56.7
		Bill payments	89	20.8
		Balance inquiry	30	7.0
		Buy goods and services	47	11.1
		Payroll services	19	4.4
5	Reason	24 hour/7day operation	151	35.4
		Time -saving	208	48.7
		Free checking a/c	59	13.8
		Using for purchase	9	2.1

Source: Survey data (2022)

According to Table (5.2), the majority of respondents used KBZ mobile banking, the second majority of respondents used AYA and the third majority of respondents used CB bank. The duration used is grouped into three: less than one year,1-3 years, and over 3 years. The most respondents who have been using mobile banking are above three year and minority of respondents are less than one year. In frequency in using of mobile banking services per month, it shows that most of the respondents used are 1-5 times. According to Table (5.2), there are five groups of purposes in mobile banking services: transferring money, bill payment, balance inquiry,

buy goods and services and payroll services. The purpose of majority respondents is to transfer money (242 out of 427).

The reason of the mobile banking service used is grouped into four: 24 hrs/day operation, time-saving, free checking accounts, and using for purchase. According to survey data, the reason that the most respondents used are time saving. The minority of respondents use it for buying the goods and services.

5.3 Influencing Factors on Adoption of Mobile Banking Services

This section identities four main influencing factors on adoption of mobile banking services. Firstly, the overall mean value of these variables is presented.

5.3.1 Perceived Usefulness of Mobile Banking Services

The first variable provides perceived usefulness factor that are considered as influencing factor on user adoption of mobile banking services. Perceived usefulness is measured by speed and accuracy, mobility access, and function and convenient system. The mean value and standard deviation are shown in appendix C and overall mean value of perceived usefulness is presented in Table (5.3).

Table (5.3) Perceived Usefulness

Sr No.	Items	Overall Mean
1	Speed and Accuracy	4.03
2	Mobility access	3.93
3	Function & Convenient system	4.10
	Overall Mean	4.02

Source: Survey Data (2022)

As presented in Table (5.3), function and convenient system possesses the highest overall mean value (4.10) among three variables of perceived usefulness. It can be implied that users strongly accept the functions of mobile banking services are useful, convenient and comfortable. Mobility access has the minimum overall mean value (3.93). However, its value is agreed and high perception level. Therefore, users could access mobile banking services from anywhere at any time through mobile devices. Mobile banking is useful for users as they are able to access their bank account and conduct banking anywhere at any time.

5.3.2 Perceived Ease of Use of Mobile Banking Services

Perceived ease of use is assumed on influencing factor on consumer adoption of mobile banking services. It includes compatibility, self- efficiency and efficient transaction. The mean value and standard deviation are shown in appendix C and overall mean value of perceived ease of use is presented in Table (5.4).

Table (5.4) Perceived Ease of Use

Sr No.	Items	Overall Mean
1	Compatibility	3.81
2	Self-Efficacy	3.80
3	Efficient transaction	4.30
	Overall Mean	3.97

Source: Survey Data (2022)

As presented in Table (5.4), efficient transaction has the highest overall mean value (4.30), whereas self - efficacy variable has the lowest overall mean value (3.80) among three variables of perceived ease of use. It can be highlighted that user perception on efficient transaction of mobile banking services is high perception level. On the other side, although self- efficacy has the lowest overall mean value, its value showed that mobile banking users able to use mobile banking services by themselves without taking any other's instructions or help. It can be suggested that perceived ease of use reduce the level of energy and cost of mobile banking services. Therefore, respondents agree mostly with mobile banking service is easy to learn how to use it.

5.3.3 Perceived Trust of Mobile Banking services

Perceived trust of mobile banking services is assumed as influencing factor on consumer adoption of mobile banking services that include image, availability and integrity. The mean value and standard deviation as shown in appendix C and overall mean value of perceived trust is presented in Table (5.5).

Table (5.5) Perceived Trust

Sr. No.	Items	Overall Mean
1	Image	3.91
2	Availability	3.67
3	Integrity	3.78
	Overall Mean	3.78

Source: Survey Data (2022)

Table (5.5) depicts that the image has the maximum mean value (3.91) and Availability has the lowest mean value (3.67). Perceived trust of mobile banking services has overall man value of 3.78. It indicates that the banks perceive that user imposes positive image of user that can lead to the trust on the bank. Additionally, the lowest mean value of availability can be inferred that user's perception on honesty and security building skill of their banks is high and acceptable. It can be concluded that banks perceive that their perceived image is one of the most important criteria for choosing a banking service. The level of image perceived by banks can shape the user with a higher satisfaction level. In general, banks assume that their perceived trust, which is approaching to 4, is good for having large number of brunches, attractive decoration, and protecting of customers' privacy.

5.3.4 Perceived Risk of Mobile Banking Services

Perceived risks are assumed as influencing factors on adoption of mobile banking services that include security and privacy risk, performance risk and financial risk. The mean value and standard deviation are shown in appendix C and the overall mean value of perceived risk is presented in Table (5.6).

Table (5.6) Perceived Risk

Sr No.	Items	Overall Mean
1	Security & privacy risk	3.20
2	Performance risk	2.93
3	Financial risk	2.70
	Overall Mean	2.94

Source: Survey Data (2022)

Table (5.6) depicts that the security and privacy risk have the maximum mean value (3.20) and financial risk has the lowest mean value (2.70). Overall risk of mobile

banking services has overall man value of 2.94. It indicates that the banks perceive that users' security and privacy risk is highest that can lead to the higher users' overall risk on taking banking services. Additionally, the lowest mean value of financial risk, which is around 3, means that financial risk is the neutral level of acceptance. It can be suggested that banks' perception of user on financial risk is not extremely high. In using mobile banking services, users cannot clearly consider the effect of risk or the presence of risk related to mobile banking. It could be that despite the consumers are aware of risks, they are still accepting and adopting it for its convenience. Consumers' may perceive that benefits of using mobile banking outweigh the risks of adopting it.

According to survey data results, overall mean value of the four influencing factors is summarized in Table (5.7)

Table (5.7) Influencing Factors on Consumer Adoption of Mobile Banking Services

Sr. No.	Variables	Overall Mean	Attribute Items
1	Perceived usefulness	4.02	16
2	Perceived ease of use	3.97	19
3	Perceived trust	3.78	16
4	Perceived risk	2.94	14

Source: Survey Data (2022)

As presented in Table (5.7), the highest perception on mobile banking services is perceived usefulness with maximum mean value (4.02). The users perceive that mobile banking service is useful, convenient, time saving and quicker way of doing banking transaction compared with the traditional banking system. The lowest perception level of mobile banking services is found in perceived risk with minimum mean value (2.94). The users of mobile banking perceived that mobile banking may pertain significant risk of loss of privacy and money. However, they do not perceive the risk level as such because the benefits of mobile banking services far outweigh than the risks. The potential benefits obtained from mobile banking services compensate for reduction in risks associated with mobile banking services.

5.4 Correlation Analysis

Pearson correlation analysis is to examine the relationships among variables. Correlation coefficient (r) among dependent variable and independent variables. The

(r) is a measure of the strength of the association between two variables. The study was to examine factors that influenced adoption of mobile banking services among private banks' customers. Correlation analysis was first conducted to assess the strength and direction of the relationship between the independent variables (PU, PE, PT and PR) and the dependent variables (Adoption of Mobile banking Services) as show in Table (5.8) and the relationship between user experience, customer satisfaction and continuous usage as shown in Tables (5.9).

As shown in the Table (5.8), correlation between variables at the 0.01 level is shown by two asterisks (**). Pearson's correlation was used to check if there was an association between each of the independent variables and the dependent variable. PU in this output represents Perceived Usefulness Factors, PEOU represents Perceived Ease of Use Factors, PT represents Perceived Trust Factors, PR represents Perceived Risk, AMBS in this output represents Adoption of Mobile Banking Services, UX represent User Experience, CS represents Customer Satisfaction and CU represents Continuous Usage. Parsons's correlation coefficient (r) ranges from -1 to 1. 0.00 - 0.19 indicates a very weak relationship, 0.20 - 0.39 indicates a weak relationship, 0.40 - 0.59 indicates a moderate relationship, 0.60 - 0.79 indicates a strong relationship and 0.80 – 0.99 indicates the very strong relationship between variables.

Table (5.8) Correlations between Perceived Usefulness, Perceived Ease of Use, Perceived Trust, Perceived Risk and Adoption of Mobile Banking Services

		PU	**PEOU**	**PT**	**PR**	**AMBS**
PU	Person Correlation	1				
	Sig(2tailed)					
PEOU	Person Correlation	0.770**	1			
	Sig(2-tailed)	0.000				
PT	Person Correlation	0.615**	0.615**	1		
	Sig(2-tailed)	0.000	0.000			
PR	Person Correlation	-0.271**	-0.271**	-0.389**	1	
	Sig(2-tail)	0.000	0.000	0.000		
AMBS	Person Correlation	0.518**	0.609**	0.541**	- 0.171**	1
	Sig(2-tail)	0.000	0.000	0.000	0.000	

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

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Survey Data (2022)

According to the results, perceived usefulness and adoption have positively related at 0.581. The more the perceived usefulness, the greater the consumers' adoption perceived by the banks. Likewise, perceived ease of use has positively related to the adoption of mobile banking services at 0.609. The more the perceived ease of use, the greater the adoption perceived by the banks. This relationship is the strongest among four factors. It could be that Myanmar population is well dispersed among rural and urban. While people from urban area are more educated and technological friendly, the people in rural areas can use if the mobile banking is easy to use for them.

The banks can attract more customers if the applications are simple and easy to use. Similarly, the trust of mobile banking has positive correlation with adoption of mobile banking services at 0.541. On the other hand, perceived risk has negative and very weak relationship with adoption of mobile banking services at -0.171. It can be concluded that the lower the risk, the more the users to adopt mobile banking services. If the users perceive the less risk int terms of security, privacy and ease of use, they will determine to adopt the mobile banking services offered by private banks in Myanmar.

Table (5.9) Correlation between User Experience, User Satisfaction and Continuous Usage

		AMBS	UX	US	CU
AMBS	Personal Correlation	1			
	Sig(2-tail)				
UX	Personal Correlation	0.644**	1		
	Sig(2-tail)	0.000			
US	Personal Correlation	0.682**	0.791**	1	
	Sig(2-tail)	0.000	0.000		
CU	Pearson Correlation	0.678**	0.676**	0..768**	1
	Sig(2-Tail)	0.000	0.000	0.000	

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

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Survey Data (2022)

According to the results, perceived user experience and adoption have positively related at 0.644. The greater the favorable experience, the greater the consumers' adoption perceived by the banks. Likewise, perceived user experience has positively related to user satisfactions of mobile banking services at 0.791. The more

the perceived user experience, the greater the adoption perceived by the banks. Likewise, perceived customers satisfaction has positively related to user continuous use of mobile banking services at 0.768. The more customer' are satisfied with the banking services, the greater the possibility that banks customers will adopt it continuously. It can be concluded that the satisfied customers will think the mobile banking services are effective and thus they are likely to use services offered by private banks in Myanmar repeatedly.

5.5 Analysis of Influencing Factors on Adoption of Mobile Banking Services

The first objective of this study is to analyze the effect of influencing factors on adoption of mobile banking services.

To analyze influencing factors of mobile banking services and adoption, firstly, the propose model is developed as follows.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Y = Adoption

X_1 , X_2, X_3, X_4 = Influencing factors of mobile banking services

β_0 = Intercept

β_1 , β_2 , β_3 , β_4 = Slopes or regression coefficients

ε = Random error

To achieve this objective, multiple linear regression (MLR) is used to measure the effect of influencing factors: perceived usefulness, perceived ease of use, perceived trust and perceived risk on adoption of mobile banking services. Table (5.10) shows the results of regression analysis.

Table (5.10) Regression Analysis for Adoption of Mobile Banking Services

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.778***	0.223		3.493	0.001
Perceived usefulness	0.209***	0.062	0.201***	3.351	0.001
Perceived ease of use	0.355***	0.066	0.321***	5.366	0.000
Perceived trust	0.217***	0.044	0.247***	4.897	0.000
Perceived risk	- 0.051*	0.030	-0.067*	-1.683	0.093
R					0.659
R^2					0.434
Adjusted R^2					0.429
F	80.891***				

Source: Survey Data (2022)

Note: *** 1%, ** 5%, * 10% level of significant

Dependent variable: Adoption of Mobile Banking Services

As shown in Table (5.10), the value of adjusted R^2 is 0.429, the model has accounted for 42.9% of the variation in the adoption of mobile banking services. The results also show that all of the influencing factors have their effects on adoption of mobile banking services.

According to the results of multiple regression analysis, all four influencing factors indicates significant effects on adoption of mobile banking services. However, the level and direction of significant effects are different. The first three independent variables such as perceived usefulness, perceived ease of use, perceived trust, have positive and significant effect on the adoption of mobile banking services.

As presented in above Table (5.10), it stated that the unstandardized coefficient and p value of perceived usefulness were positive and highly significant ($B = 0.209$, $p < 0.01$). Thus, perceived usefulness has a positive and significant effect on adoption of mobile banking services, so the result supports H_1. This implies that when mobile banking services are useful to users, selected private bank' customers feel that they will increase their use due to their perceived functional utility the services, leading to the development of a positive attitude towards usage of services and adopt it.

As indicated in Table (5.10), the unstandardized coefficient and p value of perceived ease of use is positive and highly significant (B = 0.355, p < 0.01). Thus, Perceived ease of use has a positive and significant effect on adoption of mobile banking. So, this provides strong support for H_2. This implies that when mobile banking services are easy to use, selected private bank' customers feel that they will exert less effort to operate the services, leading to the development of a positive attitude towards usage of services and accept to adopt them.

The results of Table (5.10) showed that unstandardized coefficient and p value of perceived trust is positive and significant (B = 0.217, p < 0.01). Thus, the result supports H_3 that perceived trust has positive and significant effect on adoption of mobile banking. This implies that when the banks assume mobile banking services are trustworthy, users will increase their adoption because of image and reputation of the banks.

The results also showed that unstandardized coefficient and p value of perceived risk is significant effect (B = - 0.051, p < 0.10) on adoption of mobile banking services. However, the direction of effect is negative and it is significant only at marginal level. Thus, the research finding confirms H_4. The result implies that if user perceives high risk pertaining to the use of mobile banking services, they may be reluctant to install and use their mobile banking. Despite of the risk level, users of current mobile banking may have inevitably accepted the certain level of risk. When they encounter a situation where mobile payment is very risk by threatening their saving and privacy, users are less likely to accept the risk and it will hinder the adoption of mobile banking service in Myanmar. So, the banks need to reduce the perceived risk of customers to induce greater customers 'use.

According to the values of standardized coefficients, perceived ease of use has the strongest positive effect on adoption of mobile banking services followed by perceived trust, perceived usefulness. It is the biggest predictor of adoption. It could be that among Myanmar users, user friendliness is the most important factor. This may be that many of the potential users are from both rural and urban areas. While urban citizens may keep in touch with the latest technological advances, technology may be new to the rural citizens. So, perceived ease of use could be the most important decision factor for them in the application of mobile banking services. Perceived ease of use implies that when mobile banking services are easy to use, users feel that they will need

to exert less effort to operate the services, leading to the development of positive attitude towards usage.

Secondly, perceived trust is the most important factor in the adoption. Risk is inevitable; however, the particular bank or services are trustworthy to users. The latter will feel a strong sense of security to conduct large volume financial transactions. It means that the higher the trust perceived by users, the greater number of clients can be generated by the banks because users believe in accuracy of mobile banking transactions. Overall, when a mobile banking service can be utilized by the customers easily, the more customers will adopt the services.

5.6 Analysis on the Effect of Adoption of Mobile Banking Services on User Satisfaction

To analyze the effect of adoption of mobile banking services and user satisfaction, firstly, the propose model is developed as follows.

$Y = \beta_0 + \beta_1 X_1 + \varepsilon$

Y = Customer satisfaction

X_1 = Adoption of mobile banking services

β_0 = Intercept

β_1 = Slope or regression coefficient

ε = Random error

Table (5.11) Regression Analysis of Adoption of Mobile Banking Services on User Satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.863***	0.149		5.796	0 .000
Adoption of mobile banking services	0.717***	0.037	0.689	19.244	0 .000
R					0.682
R^2					0.466
Adjusted R^2					0.464
F Value	370.334***				

Source: Survey Data (2022)

Note: *** 1%, ** 5%, * 10% level of significant

Dependent Variable: Satisfaction R^2

To analyze the effect of adoption of mobile banking services on user satisfaction, simple linear regression (SLR) analysis is used. As shown in Table (5.11), the value of R^2 is 0.466. The model has accounted for 46.6% of the vatiation in the user satisfaction that can be explained by the adoption of mobile banking services. According to results, unstandardized coefficient and p value of adoption of mobile banking services was positive and significant ($B = 0.717$, $p < 0.01$).

According to the survey result, there is a positive relationship between adoption of mobile banking services and user satisfaction at the 99% confidence level. According to this result, unstandardized coefficient (B) value of 0.717 indicates that one unit increases in adoption of mobile banking services will lead to increase in 0.717 unit of satisfaction of mobile banking services. Thus, the research finding confirmed H5 and it was accepted that adoption of mobile banking services has positive and significant effect on user satisfaction.

5.7 Analysis of User Experience on Adoption of Mobile Banking Services and User Satisfaction

To fulfill the objective three, the moderating effect of user experience on adoption of mobile banking services and user satisfaction was analyzed in this study. This section includes two main parts: the overall mean value of user experience and moderating effect on user satisfaction of mobile banking services.

5.7.1 User Experience of Mobile Banking Services

User experience is assumed as moderating effect on user satisfaction of mobile banking services which include communication, employee-customer interaction and services fit to customer needs. The mean value and standard deviation are shown in Appendix C. The overall mean value of these factors is presented in Table (5.12).

Table (5.12) User Experience

Sr. No.	Items	Overall Mean
1	Communication	3.52
2	Employee-user interaction	3.68
3	Service fit to user needs	3.73
	Overall Mean	3.64

Source: Survey Data (2022)

User experience is measured in this study by three indicators such as communication, employee-user interaction, service fit to the user needs. In fact, Stein and Ramasesham (2016) claimed that user experience composed of seven dimensions such as atmosphere, technology, communication, process, employee-user interaction, employee-employee interaction and product or service interaction. Among them communication, employee-user interaction and service fitness are aligned with customers as these three factors seem to be most demanded elements by mobile banking users in Myanmar.

Regarding to Table (5.12), service fit to customer needs has maximum overall mean value (3.73) and communication has minimum overall mean value (3.52). Therefore, it can be reasoned that respective bank able to provide services that are aligned with and able to satisfy user needs. Moreover, it suggests that despite of the lowest overall mean value, communication system and information provided by respective bank is just enough to mobile banking users, which is above the high perception score of 3.41-4.20 (Best, 1977).

5.7.2 Moderating Effect of User Experience on the Relationship between Adoption of Mobile Banking Services and User Satisfaction

To analyze the moderating effect of user experience on the relationship between adoption of mobile banking services and user satisfaction, hierarchal multiple regression (HML) analysis was applied.

To analyze the moderating effect of user experience of mobile banking services, the propose model (the model 2) is developed as follows.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 M_1 + \beta_3 (X_1 * M1) + \varepsilon$

Y = User satisfaction of mobile banking services

X_1 = Adoption of mobile banking services

M1 = User experience

β_0 = Intercept

β_1 , β_2 , β_3 = Slopes or regression coefficients

ε = Random error

As presented in Table (5.13), the moderation effect of user experience on adoption of mobile banking services and user satisfaction. The two models are compared and interpreted based on the results.

Table (5.13) Moderating Effect of User Experience on the Relationship between Adoption of Mobile Banking Services and User Satisfaction

Variables	Model 1				Model 2			
	B	**SE**	**Beta**	**Sig.**	**B**	**SE**	**Beta**	**Sig**
Constant	0.384***	0.119		0.001	0.348**	0.121		0.004
AMBS	0.310***	0.038	0.295	0.000	0.319***	0.038	0.304	0.000
UX	0.547***	0.034	0.601	0.000	0.571***	0.034	0.598	0.000
AMBS* UX					0.15*	0.009	0.048	0.087
R^2 change							0.003	
R			0.823				0.824	
R^2			0.677				0.680	
Adjusted R^2			0.676				0.677	
F Value			445.123				299.092	

Note: ***, **, * represent 1%, 5% and 10% level of significance

Source: Survey Data (2022)

UX: User Experience

According to Table (5.13), model (1) indicates a base model in which only independent variables are tested (without interaction). In this model, p-value for all variable is significant at 1% level, adjusted R^2 value of 0.676 interprets that 67.6 % of the variation in user satisfaction is explained by independent variables. The model (2) indicates a full model in which both independent and moderator variable are tested. It shows the effect of moderating variable user experience on the relationship between adoption of mobile banking services and user satisfaction. According to result, R^2 changes is 0.003 (0.03 %). The adjusted R^2 value of 0.677 indicates that the full model, in which independent and moderator, can explain 67.7 percent about the variation. This adjusted R square is a changed from 67.6 percent after adding the moderator, i.e., user experience. The model is also significant with F value of 299.092 at p-value 0.087.

The result indicates that user experience has a partial and significant moderating effect on the relationship between adoption and user satisfaction on mobile banking services. According to results, unstandardized coefficient and p value of moderator, i.e., user experience, was positive and significant ($B = 0.15$, $p < 0.10$). Thus, the finding confirmed H6 that user experience has positive and significant moderation effect on the link between adoption of mobile banking and user satisfaction. It can be said that banks

that deliver higher user experience by means of designing communication, employee-customer interaction and service fit to user needs can foster higher satisfaction of existing users. Without delivering good user experience, banks may be unable to attain higher satisfaction of current users of mobile banking services.

5.8 Analysis of the Effect of User Satisfaction on Continuous Usage of Mobile Banking Services

To analyze the effect of user satisfaction on continuous usage of mobile banking services, the propose model is developed as follows.

$Y = \beta_0 + \beta_1 X_1 + \varepsilon$

Y = Continuous Usage of mobile banking services

X_1 = Customer satisfaction

β_0 = Intercept

β_1 = Slope or regression coefficient

ε = Random error

Table (5.14) Regression Analysis for Continuous Usage of Mobile Banking Services

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.653***	0.133		4.900	0.000
Satisfaction	0.882***	0.036	0.768	24.753	0.00
R					0.768
R^2					0.590
Adjusted R^2					0.589
F					612.731

Source: Survey Data (2022)

Note: *** 1%, ** 5%, * 10% level of significant

Dependent Variable: Continuous usage

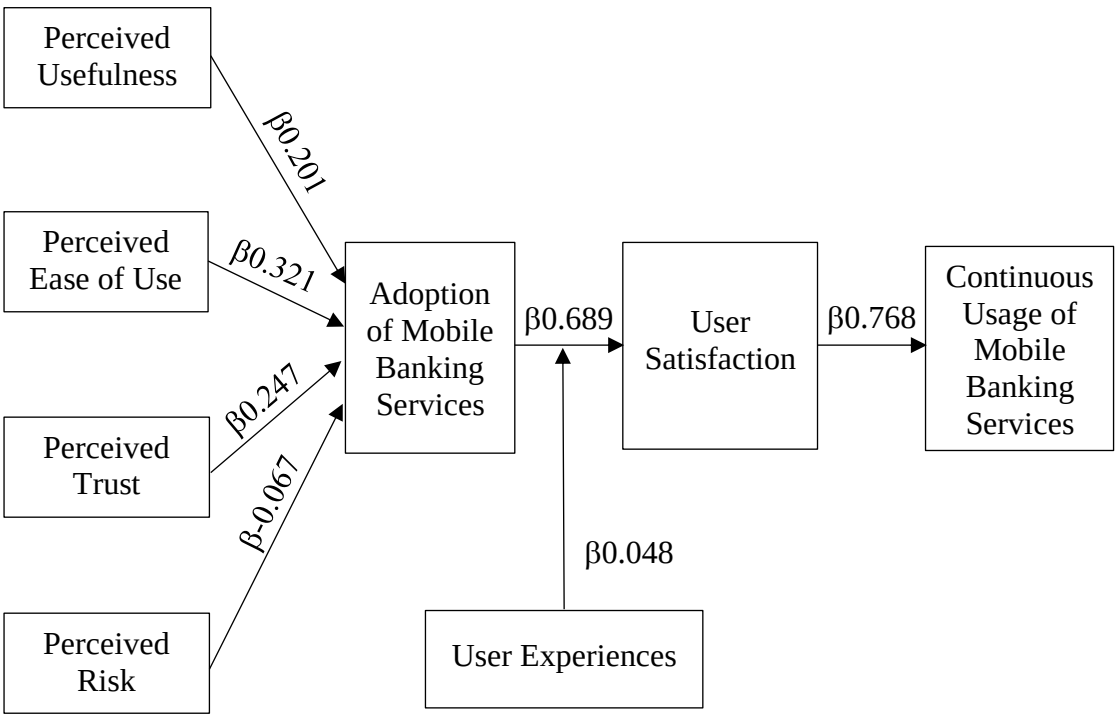
As shown in Table (5.14), the value of Adjusted R^2 is 0.589. This model has accounted for 58.9% of the variation continuous usages can be explained by user satisfaction of mobile banking services. According to the results, unstandardized

coefficient and p value of user satisfaction on mobile banking services was positive and significant (B = 0.882, p < 0.01). One unit increases in satisfaction level will lead to increase in 0.882-unit continuous usage of mobile banking services. Thus, these findings confirmed H7 that user satisfaction has positive and significant effect on continuous usage of mobile banking. Existing mobile banking customers who are satisfied with the mobile banking services offered by particular banks are likely to extend their adoption in the future for their convenience and cost effectiveness.

5.9 Summary of the Results

This study explores influencing factors, adoption, satisfaction and continuous use of mobile banking services in Yangon Region. To fulfill the aims of the study, total 427 customers were selected as respondents and the survey data were analyzed by SPSS. To examine the objective one, i.e., the relationship between influencing factors and adoption of mobile banking services, four variables are used in measuring the influencing factors. The summary of results for each objective is presented in Figure (5.1).

Figure (5.1) Summary of the Results



Source: Survey Data (2022)

Figure (5.1) presents the summary results of the regression analysis. For the first objective, direct and positive influence of three influencing factors on adoption of mobile banking services. These variables are perceived usefulness, perceived ease of use and perceived trust at 1% significant level. The highest significant value occurs at ease of use and lowest value at perceived usefulness. However, the negative significant effect on mobile banking adoption is detected in perceived risk with a 10% significant level. For the second objective, adoption of mobile banking services has a positive and significant effect on user satisfaction at 1% significant level.

For the third objective, the moderation effect of user experience on the relationship between adoption of mobile banking services and user satisfaction was found positive and marginally significant at 10%. The fourth objective analyzes the relationship between user satisfaction and continuous usage of mobile banking services. The result showed that the relationship between satisfaction and continuous usage is positive and significant at 1%.

CHAPTER VI
CONCLUSION

This chapter underscores the summary of findings and discussions of consumer adoption and continuous usage of mobile banking services. It also outlines suggestions and recommendations for the service providers and policy makers on how to stimulate user satisfaction and continuous usage and how to design strategies for efficient banking services. Finally, it concludes with further avenue for extending this study and with contributed areas where the current research can offer to policy and practice for the banking sector.

6.1 Findings and Discussions

The study focused on consumer adoption and continuous usage of mobile banking services in the Yangon Region. There are four objectives that intend to examine (1) the effect of influencing factors on the adoption of mobile banking services, (2) the adoption of mobile banking services on the satisfaction of users, and (3) the moderating effect of user experience on the relationship between the adoption of mobile banking services and satisfaction of the user, and (4) the effect of satisfaction of users on continuous usage of mobile banking services.

The total respondents analyzed in the research are 427 users. Most of the respondents are female who are in the age of between 31-40 years. Most of them are single who have obtained graduate. Majority of respondents are private sector employee and they have the monthly income level of 300,001- 400,000 Kyats. The study found that most of the respondents are using mobile banking services to save time, to transfer money effectively. They are educated and work in private business with middle income level. The results show that most of the users are KBZ Bank customers who has been using banking services over three years and they used it 1 to 5 times per month. Among 427 respondents, the purpose of most mobile banking user is for transferring money.

Four variables such as perceived usefulness, perceived ease of use, perceived trust, and perceived risk are considering as influencing factors. Based on the survey

results of the study, the perception level of respondents is divided into five parts based on Best (1977)'s suggestion. The mean value of perceived usefulness, perceived ease of use and perceived trust are higher than 3.40 except perceived risk.

The first research objective is to examine the influencing factors on the adoption of mobile banking services. The results revealed that perceived usefulness, perceived ease of use, and perceived trust have a positive and significant effect on the adoption of mobile banking services. Among these three factors, perceived ease of use has the strongest significant effect on the adoption of mobile banking services followed by perceived trust, and perceived usefulness.

The positive effect of perceived usefulness on adoption of mobile banking services implies that the main advantage of opening an account is that users will be able to make transactions with account holders and non-account holders around the country without having to go to the bank. Additionally, it can allow users to manage their funds more quickly and efficiently at any place and at any time from mobile devices. The finding concluded that mobile banking is useful service for users because services work accurately and quickly, can be used anytime and anywhere with any mobile devices.

The positive effect of perceived ease of use on adoption of mobile banking services shows that ease of use can be provided by giving opportunity to users for changing passwords by themselves at any time, easy to operate mobile banking transaction. In addition, the provision of alternatives of languages can improve greater adoption of mobile banking. If the banks offered easy ways to use mobile banking services, the customers would have a strong desire to adopt mobile banking services because some users have technical difficulties, especially elder people. If it is difficult or complex to use, the customers will have no desire to adopt it. In addition, the users of mobile banks are well dispersed among rural and urban areas. Since mobile technology is still the newness to them, perceived ease of use can be the most crucial factor for consumers from both urban and rural, adoption of mobile banking services.

The positive effect of perceived trust on adoption of mobile banking services highlights that user trust is a critical factor to influence the adoption of mobile banking services. In reality, building trust is not the easy task for the service provider (especially banks). For greater customer adoption, the trust of customers is an essential requirement. Users are very sensitive about their transaction data, not to be changed or to have any loss whenever they use mobile banking. It can be concluded that banks also keep financial information secure and ability to perform banking transactions correctly

for the users, which provide greater image, availability and integrity in mobile banking services.

Unlike other three factors, perceived risk has a negative impact on the adoption of mobile banking services. Although customers realize that there is a negative impact, they use mobile banking because using it has more returns than its risks. Mobile banking users may understand the potential danger of mobile services such as loss of privacy, loss of money. The time and cost saving arising from the mobile banking services outweigh these potential damages so this greater perceived risk cannot prevent them from mobile banking adoption. However, it should not be taken for granted that service providers especially banks have to endeavor to eliminate or reduce the perceived risk. By doing so, the adoption of mobile banking will last long and continual acceptance of customers will be gained.

The second objective of this research is to examine the effect of the adoption of mobile banking services on the satisfaction. The research finding confirmed that adoption of mobile banking has positive and significant effect on user satisfaction. Users who are already adopted mobile banking services are satisfied with them because of its usefulness, ease of use for users, security and trust, and being able to protect against the risk of loss. It can be concluded that user satisfaction heavily relied on adoption of mobile banking services to force users to continuously use mobile banking services. Once users adopt it, customer satisfaction is able to gain. On the contrary, without satisfaction, the users will not use it in the future.

The third objective of this research is to analyze the moderating effect of user experience on the relationship between the adoption of mobile banking services and the user satisfaction. The results suggest that effective good communication with customers an indicator of user experience. The employee-customer interaction is a significant part of user experience. Service fit to customer needs are vital part of user experience. All three components of user experience are vial for user experience, each factor alone is insufficient for good user experience. Without good communication customers cannot be pleased regardless of fitness of the service to user needs. Likewise, even though the service fits to customer needs, this factor only cannot create good users experience who are already adopted into greater satisfaction.

User experience demonstrates the positive moderating effect on the relationship between user adoption and customer satisfaction despite this significant effect is marginally. The more satisfaction level of users who are already adopted can be

achieved from the good user experience. All service experience offered by selected private banks are attractive to satisfy users who are already adopted mobile banking services. Providing user experience before adoption is high impact for users to gain satisfaction. Bank will find greater difficulty to gain customer satisfaction if users with no experience use mobile banking services. Less experienced user may feel lesser satisfaction despite users may attempt to use mobile banking services. Banks that deploy effective communication channels, maintain good customer-employee relationship and design viable services are able to deliver greater satisfaction to their existing users of mobile banking services.

The Fourth research objective is to analyze the effect of user satisfaction on continuous usage of mobile banking services. The study found that strong positive and significant relationship between user satisfaction and continuous usage. It can be said that the more the users are satisfied with using mobile banking services due to perceived usefulness, perceived ease of use, perceived trust, and perceived risk, the higher the rate of continuous usage of customers can be achieved by the banks. According to results, users with high satisfaction levels admire continuously use these services. The continuous usage of users cannot be obtained by the banks without creating user satisfaction. Only satisfied customers will only able to adopt mobile banking services to use for their daily financial transactions.

These findings imply that, consumer behavior, such as consumers' acceptance, their repeat purchase regarding mobile banking services, are subtle and complicated. Improving operational efficiency and upgrading consumers' trust can attract greater number of potential customers and reinforce their adoption of mobile banking services. In addition, greater diffusion of technological products in terms of less complexity and greater compatibility can reinforce the consumers' adoption behavior. Likewise, consumer satisfaction is imperative for repeat purchase and continuous use. Satisfied customers are aware and enjoy the benefits offered by products and services, and thus they are more likely to repeatedly utilize them.

Overall, if users use mobile banking services continuously, the banks, get the following results. The reduction in the costs of cash management can results from lower costs for counting, cash, and possible errors, and the risks of losses, theft, and robbery. In addition, the shorter time of payment may offer banks to reduce the service delivery time, the risk of loss of sales, and guarantee promised a given service time. Moreover, banks can obtain the digitization of processes and documents, from the management of

the vouchers to the management of tickets for accessing the service. The savings for the banks come out of less paper handling and more security in the operations. The special and temporal ubiquity is the possible anywhere and anytime, thus creating a channel of payments, which in certain cases might create unique experiences or be less expensive for users. Therefore, the main finding of this study is a valuable source of information for private banks that operate in Myanmar.

6.2 Suggestions and Recommendations

Based on the findings of this study, it offers relevant managerial implications for the banks to stimulate consumer adoption, to promote user satisfaction and to reinforce continuous usage of mobile banking services.

The selected private banks should develop more useful mobile banking services to enhance usefulness. Banks should improve speed and accuracy of their services. The slowness of transaction and transactions errors can prevent perceived usefulness and delay in adoption and discourage repeated use. Banks should also negotiate with Telcom services so that mobile banking services can be available even in the remote areas. In addition, all banks should increase the type of transactions available for mobile banking services, such as international payment for entertainment (Netflix). Furthermore, it should expand the geographic scope by making some services available in small towns, such as Electricity payment, City Development Council payment. Therefore, it can be suggested that the particular need of the bank for providing to develop more useful mobile banking services that can enhance usefulness.

Regarding the perceived ease of use of mobile banking services, which is the most important predictor for adoption, the banks need to create more ease-of-use condition for users and should use software or mobile application that is convenient for users. Banks should also create compatible mobile banking services so that users can use without much assistance and much difficulty. All steps of processing should be designed to be clear and error free to reduce psychosocial burden for easier adoption of customers. The banks need to provide adequate information and clearer guidance about mobile banking services encourages users to adopt the mobile banking. The banks need to show information about banking facilities on pamphlets, banners and available physical assistance so that people in the rural areas of Myanmar to adopt mobile banking smoothly.

Concerning the perceived trust, the banks need to create good image, availability and integrity. They should also make an effort to build trust with users, demonstrate their ability to provide secure value-adding services, keep customers information to be confidential, provide accurate information with authentication, communicate their fair and honest intention with regard to customers' requirements, and demonstrate good intent in terms of empowering customers. Banks should increase the number of branches and communicate the possession of sound capital requirements so as to enhance their image and gain customers' trust.

Regarding the perceived risk, the banks need to effectively manage the risks associated with mobile banking services and find ways to solve the risks faced by the customers. They should also effectively practice the risk reduction strategies to reduce the security and privacy, performance and financial risk associated with mobile banking. Moreover, concerning the risk of service providers (banks) should be managed by trying to get the optimum conditions of user satisfaction and to avoid their financial loss. To achieve this, banks should install the advanced protection system to protect from fraud, scam and hacking to satisfy the customers, and finally, to encourage their continuously use. Regarding the perceived risk, the banks need to effectively manage the risks associated with

Regarding the user satisfaction, marketing department of the banks should promote user awareness by training call center employees, statement stuffers, and take-one fliers. They could adopt use newer approaches, such as quick response (QR) codes that lead to videos demonstrating how to use a mobile application or social network. They need to move quickly with newer and better mobile banking options in the face of growing competition from start-ups and smaller financial institutions.

Concerning the user experience, banks need to be matched with the demands of their target consumers. Banks should communicate information about mobile banking services efficiently and effectively to consumers. Bank staff should also be trained to provide best customer experience. Banks should monitor to keep up with changing consumer trends and adjust their service strategies accordingly. The banks should train the employees especially from the marketing department to understand the customer need, to build positive communication with customers and to provide excellent services to fulfill the needs of customers. Finally, banks should implement the market research to know the perception of customers about their satisfaction level.

Finally, the study recommends that the selected private banks from Information Technology departments need to monitor trends in mobile banking services and challenges evolving in the field. This department should monitor the increase and decrease of the rate of adoption and use of mobile banking services but also the challenges that customers face while using the service and. These days, hackers are flocking to these new media as they become more and more common. The service providers need to strengthen preventative and monitoring strategies to mitigate emerging threats and improve customer trust. Other key service procedures on which to concentrate attention are fraud and anti-money laundering efforts. Therefore, banks need to utilize the findings of this study in coming up with strategies of improving their banking systems.

6.3 Contributions of the Study

Based on the results of study, the following theoretical and policy implications of mobile banking are provided.

From the theoretical point of view, firstly this study successfully applied Technology Acceptance Model (TAM) (Davis & Venkatech,1996) in the context of mobile banking adoption with the inclusion of two new constructs namely, perceived trust and perceived risk. Furthermore, it is concluded that the (TAM) is useful despite there is a need for extension in predicting adoption of technology. Its two factors, perceived usefulness and perceived ease of use, are additionally found as additional factors that contribute to respondents' adoption of mobile banking. This finding is consistent with earlier findings with respect to the adoption of various new technologies. Therefore, the extended TAM model provides clearer understanding of the factors influencing mobile banking adoption for the banking industry in Myanmar.

Another important factor of this research contributes to marketing model by using the extended Expectation-confirmation Theory (ECT) (Oliver, 1980). However, earlier research has mainly concentrated on Unified Theory of Acceptance and Use of Technology **(**UTAUT**) (**Venkatesh,2000**)**. This research generates a more complete understanding about the formation of users**'** continuance usage of mobile banking services in Myanmar.

Additionally, this research provides useful policy implications for the government. The value for the community could be enhanced by technological

advancement in the banking sector. It is necessary always to remember that financial institutions, customers, and community are three distinct but closely related actors. The development of financial service sectors by means of more advanced services can promote customers satisfaction and community value and welfare. Mobile banking has the potential to expand financial access to the unbanked and underbanked persons by reducing transaction costs and increasing the accessibility of financial products and services. Mobile banking can help foster and sustain microfinance, which becomes an important aspect in the economies of developing countries and social welfare of the communities.

The study offers the value for the policy makers, who are in charge of public administration. The public sector in many countries charges various transactions as an operator: taxes, fees, and fines, in addition to health and education services, as well as television license fees in some countries. The public administration could start accepting payments via mobile, either in proximity with public offices using a contactless (POS) or in remote payments, such as fines or taxes due. No less important would be the weight of the additional services that could be developed for the so-called smart city, adding the mobile component of e-Governance projects and substantially reducing operating and distribution costs. More importantly, the use of mobile banking could help reduce the number of transactions in black markets, which aim to avoid revenue taxes. Mobile banking can also help in microtransactions, where the incidence of the black market is higher.

6.4 Needs for Further Studies

This study developed and explored the integrated model of adoption, customer satisfaction, and continuous usage of mobile banking services offered by private banks in Myanmar. Despite of this, it pertains certain limitations that can be fulfilled by further research. First, in this study, the adoption of mobile banking services is evaluated by factors, such as perceived usefulness, perceived ease of use, perceived trust, and perceived risk were mainly focused. Other factors should be focused by further research to understand the broader perspective of customers in using mobile banking services. Second, the study focused only on mobile banking services of five private banks (KBZ, AYA, CB, MAB, and UAB) located in Yangon that are in operation for more than five years. Further research should expand the scope of study by including not only private

banks but also foreign banks and government-owned banks located in Yangon and in other regional areas so as to obtain wider generalization about mobile banking services.

Moreover, the study focused on the continuous usage of customers as the expected outcome. As further studies, the other outcomes such as customer loyalty should be explored. In fact, the lifestyle and perception of customers are always changing. The assessment of mobile banking services should be made on a continuous basis. Therefore, longitudinal study is needed to explore the dynamic changes in users' behavior. Finally, user experience is tested as the moderating variable in this study. It is partial effect or has very small impact: this may be because of the dimensions into three: communication, employee user interaction and service fit to user needs. Actually, there are seven dimensions and among them, did not include technology, process, customer to customer interaction and atmosphere. Among them, technology and process are important for users of mobile banking services as it is technology- related product.

In addition, word of mouth is very important among customers that C2C interaction can also be another important component of user experience to create sense of security, trust and continuous usage. They can be one of the reasons why user experience does not have large or partial effect. Other moderating variables such as the demographic characteristics of customers, the government policies in using mobile banking services, etc., can change the continuous usage of customers. These areas are interesting avenue that should be studied in future research.

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APPENDIX – A
QUESTIONNAIRES

Dear Respondents,

This is an academic survey to investigate consumer adoption and continuous usage of mobile banking services. This survey questionnaire is concerned with the factor influencing the adoption of mobile banking services. This research prepare is to understand the perceptions and suggestions on the adoption and continuous usage of mobile banking services. All responses will be kept highly confidential and used for academic purposes only. Your cooperation and contribution are highly appreciated and valued.

Yours Faithfully,

…….

Htaik Htaik Lin
PhD Candidate
Yangon University of Economics

Part I

Background Characteristics of Respondents

Please place a tick (√) in the box ☐ to represent your answers.

1. Gender

- ☐ Male
- ☐ Female

2. Age

- ☐ 18 – 25 years
- ☐ 26 – 30 years
- ☐ 31 – 40 years
- ☐ 41 – 50 years
- ☐ Above 50 years

3. Marital Status

- ☐ Single
- ☐ Married
- ☐ Widowed/Divorced

4. What is the highest level of education completed by you?

- ☐ Undergraduate
- ☐ Graduate
- ☐ Master Degree

5. What is your occupation?

- ☐ Business owner
- ☐ Government staff
- ☐ Private staff
- ☐ Student

6. What is your current monthly income (Kyats)

- ☐ 200,000 and less
- ☐ 200,001 – 300,000
- ☐ 300,001 – 400,000
- ☐ More than 400,000

7. Bank Name (Please select only one bank that uses mostly use mobile banking services)

- ☐ AYA
- ☐ CB
- ☐ UAB
- ☐ KBZ
- ☐ MAB

8. How long have you been a customer of this bank? (Usage Duration)

- ☐ Less than one year
- ☐ Between 1-3 year
- ☐ Above 3 years

9. Frequency of Using Mobile Banking Services per Month

- ☐ 1 time – 5 times
- ☐ 6times -10times
- ☐ 11times -15times
- ☐ 16times – 20times
- ☐ 21times – 25times

10. What are the mobile banking services you use the most?

- ☐ To transfer money
- ☐ To pay utility bills (Telephone Bill and Electricity Bill)
- ☐ To get an account balance update
- ☐ To buy goods or services
- ☐ Payroll Services

11. Reason (why you choose the most is)

- ☐ 24-hour/7day operation
- ☐ Time-saving
- ☐ Free Checking Account
- ☐ Using for movie ticketing

Part II

Questionnaires on Customer Adoption and continuous usage of Mobile Banking services in Yangon Region.

Please indicate the levels of agreement on each of the following statements by selecting a mark (√) in the appropriate box.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Perceived Usefulness

No.	Statement	1	2	3	4	5
	Speed and Accuracy					
1	Mobile banking does not take too much time to use.					
2	Transaction speed in mobile banking is good.					
3	Mobile banking is a cost-effective process.					
4	The bank's mobile banking services are acceptable for speed and security.					
5	Mobile banking is less time-consuming than other banking options.					
6	There is high internet speed for mobile banking users.					
	Mobility access					
1	Mobile banking allows me to do my banking anywhere/ anytime					
2	Mobile banking is more accessible than visiting a bank.					
3	Mobile banking transfers can be made by using any telecommunication service.					
4	The transaction process is accurate.					
5	Mobile banking gives me greater control over financial transactions.					

	Function & Convenient system					
	Mobile banking is a low-cost transaction process.					
	Mobile banking services can be used widely for various financial transactions.					
	Mobile banking is convenient to use.					
	The current mobile banking functions allow one to do different tasks (e.g.: balance checking, money transfer, phone bill filling……..etc,					
	The mobile banking system is convenient because the phone is usually with me.					
	The mobile banking system is convenient because I can use at it any time.					

Perceived Ease of Use

No.	**Statement**	1	2	3	4	5
	Compatibility					
1	I use mobile banking because I have seen someone else using it.					
2	I use mobile banking because someone has shown me how to do it.					
3	Learning to use mobile banking is easy for me.					
4	Using mobile banking, I can send and receive money.					
5	Mobile banking is easy to operate the function.					
6	Mobile banking is easy to make transfer money.					
	Self-Efficiency					
1	The mobile banking registration process is sampling.					
2	The instructions on mobile banking are clear to me.					
3	Mobile banking makes it easier for me to do my bank transactions.					
4	Mobile banking helps me to know faster the state of my account.					

5	I am sure to use mobile banking without any errors in transactions.					
6	Mobile banking is easy to use.					
7	Mobile banking is available all the time.					
8	I am completely aware of all mobile banking.					
	Efficient transaction					
1	Using mobile banking does not require one to leave home or office to perform the service.					
2	Using mobile banking does not require a lot of mental effort.					
3	Mobile banking services can be used whenever wanted.					
4	I can react immediately to the service need.					
5	Using mobile banking does not require a lot of energy.					
6	Using mobile banking can reduce costs.					
7	Mobile banking transactions save time.					

Perceived Trust

No.	Statement	1	2	3	4	5
	Image					
1	The Bank's financial performance of the bank is secure and sound.					
2	The bank has an acceptable amount branches.					
3	The bank has adequate capital.					
4	Bank's decoration is consistent with its image.					
5	The bank has an acceptable bank life.					
	Availability					
1	I believe that the prevention of loss of access to information.					
2	I believe that information is available for use when it is needed.					
3	I believe that the information requested is always access able to authorized users.					
4	I believe that I have received enough information about mobile banking.					
5	I believe that my information is kept confidential.					

	Integrity					
1	Mobile banking systems absolutely must protect their customer's data.					
2	Unauthorized persons cannot view transaction information.					
3	The bank provides personal service to the customer.					
4	Bank has always been able to provide accurate and convenient financial transaction services.					
5	The bank provides the ability to protect and prevent fraud and information misuse.					

Perceived Risk

No.	**Statement**	**1**	**2**	**3**	**4**	**5**
	Security & privacy risk					
1	Mobile banking faces the possibility of data loss and fraud.					
2	I am afraid that I can lose money when the amount of the transfer is large.					
3	I am worried that someone might get my private information.					
4	There is a fear of using mobile banking due to hacking.					
5	Although mobile banking is one of the latest and most useful technological applications, there may be a security risk.					
	Performance risk					
1	Due to transaction errors, there might be a loss of money.					
2	Mobile banking requires many steps and complications.					
3	There may be some mistakes in the process of using mobile banking.					
4	The current mobile banking services are not yet complete.					
5	The quality of the current mobile banking is not yet stable.					

	Financial risk					
1	The level of uncertainty about the financial service conducted through the use of mobile phones is high.					
2	Mobile phone theft inhibits my adoption of mobile financial services.					
3	Mobile banking ineffectively manages my financial services.					
4	When transferring money through mobile banking, the user is afraid that he/she will lose money due to carelessness and mistakes.					
5	Bank which provides mobile banking has not enough expectations.					

Part III

The following statement is about the adoption of mobile banking services in the Yangon Region.

Please indicate the levels of agreement on each of the following statements by selecting a mark (√) in the appropriate box.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Adoption of Mobile Banking Services						
No.	**Statement**	**1**	**2**	**3**	**4**	**5**
1	I like to use mobile banking services if paying bills is cheaper.					
2	I like to use mobile banking services which have faster data transmission rates.					
3	I like to use mobile banking services because I can transfer money from one account to another.					
4	I like to use mobile banking services because I can pay bills as the user requires.					
5	I like to use mobile banking services because I can get various customer services.					
6	I like to use mobile banking services because I can search account related information.					
7	I like to use mobile banking services because I can conduct banking transactions easily.					
8	I like to use mobile banking services because I have greater control over my banking transactions.					

I would use / I would adopt / I like to use

Part IV

The following statement is about the user experience of mobile banking services in Yangon Region.

Please indicate the levels of agreement on each of the following statements by selecting a mark (√) in the appropriate box.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

User Experience

No.	Statement	1	2	3	4	5
	Communication					
1	Bank advertisements are useful in reaching customers.					
2	Bank's advertising is always noticeable.					
3	Bank's advertising is always effective.					
4	Bank's website is able to provide updated information.					
5	Bank's takes responsibility if the customer forgets the user name and password.					
6	User have received enough information about mobile banking.					
	Employee-customer interaction					
1	Bank's employees are helpful to explain customer needs.					
2	Bank's Employees are given friendly and courteous manner of customers.					
3	Bank's employees are skillful in their work.					
4	Bank's employees can supply personalized services and advice to the customers.					
5	Bank's employees can rapidly make the response to customer problems.					

	Service fit to customer need					
1	The assortment of services offered by the bank is extensive.					
2	Mobile banking services offered by banks are fit for customer needs.					
3	The bank’s branch employees are helpful to explain specific service features.					
4	The assortment of products offered by the bank is suitable for the current situation.					
5	Mobile banking services offered by banks are clear and transparent information.					

Part V

The following statement is about your satisfaction with Mobile Banking services in Yangon Region.

Please indicate the levels of agreement on each of the following statements by selecting a mark (√) in the appropriate box.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Customer Satisfaction						
No.	**Statement**	**1**	**2**	**3**	**4**	**5**
1	I am satisfied with the time taken for mobile banking services.					
2	I am satisfied with banking transactions using mobile banking services.					
3	I am satisfied with easy-to-use mobile banking services.					
4	I am satisfied with clear and easy-to-understand instructions for mobile banking services.					
5	I am satisfied with the mobile banking service for banking transaction data protection.					
6	I am satisfied with the usefulness of mobile banking.					
7	I am satisfied with the protection against fraud and data transmission errors in mobile banking.					
8	I am satisfied charges for mobile banking are less compared with other services.					
9	I am satisfied false transaction occurs refund facility.					
10	I am satisfied easily with the availability of the mobile network.					
11	I am satisfied mobile banking is easy to make transfer funds.					
12	I am satisfied with various services in mobile banking.					

Part VI

The following statement is about the continuous usage situation of Mobile Banking services in the Yangon Region.

Please indicate the levels of agreement on each of the following statements by selecting a mark (√) in the appropriate box.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Continuous usage						
No.	**Statement**	**1**	**2**	**3**	**4**	**5**
1	I am sure to use mobile banking continuously in the future.					
2	If there is a need to use mobile banking in the future, I will use mobile banking for my bank transactions.					
3	In addition to necessary use in the future, I will also actively increase the frequency of use of mobile banking.					
4	The useful condition of mobile banking forces me to use mobile banking in the near future.					
5	The easy ways to use mobile banking attract me to continuously use it.					
6	The trust and confidence level in mobile banking forces me to use mobile banking continuously.					
7	I intend to use mobile banking continuously than use any alternative means.					

Do you have any suggestions for the improvement of mobile banking services in the future?

.....

.....

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(Thank you very much for your kind cooperation and valuable time.)

APPENDIX - B

List of Mobile Banking Services of Private Banks in Myanmar

Sr. No.	Name of the Bank	Forms of Ownership
1	Kanbawza Bank	Private Bank
2	Ayeyarwady Bank	Private Bank
3	Co-operative Bank	Private Bank
4	Myanmar Apex Bank	Private Bank
5	United Amara Bank	Private Bank
6	Myanmar Citizens Bank	Private Bank
7	Yoma Bank	Private Bank
8	Shwe Bank	Private Bank
9	Innwa Bank	Private Bank
10	Asia Green Development Bank	Private Bank

Source: Central Bank of Myanmar (CBM), 2022

Correlations Analysis on Adoption of Mobile Banking Services

		PU	PEOU	PT	PR	AMBS	U X	US	CUMBS
Perceived usefulness	Pearson Correlation	1	.770**	.615**	-.271**	.581**	.484**	.578**	.585**
	Sig.(2 tailed)		.000	.000	.000	.000	.000	.000	.000
	N	427	427	427	427	427	427	427	427
Perceived ease of use	Pearson Correlation	.770**	1	.615**	-.274**	.609**	.526**	.593**	.579**
	Sig.(2 tailed)	.000		.000	.000	.000	.000	.000	.000
	N	427	427	427	427	427	427	427	427
Perceived Trust	Pearson Correlation	.615**	.615**	1	-.389**	.541**	.714**	.627**	.558**
	Sig.(2 tailed)	.000	.000		.000	.000	.000	.000	.000
	N	427	427	427	427	427	427	427	427
Perceived risk	Pearson Correlation	-.271**	-.274**	-.389**	1	-.171**	-.327**	-.317**	-.273**
	Sig.(2 tailed)	.000	.000	.000		.000	.000	.000	.000
	N	427	427	427	427	427	427	427	427
Adoption of Mobile Banking Services	Pearson Correlation	.581**	.609**	.541**	-.171**	1	.644**	.682**	.678**
	Sig.(2 tailed)	.000	.000	.000	.000		.000	.000	.000
	N	427	427	427	427	427	427	427	427
User experience	Pearson Correlation	.484**	.526**	.714**	-.327**	.644**	1	.791**	.676**
	Sig.(2 tailed)	.000	.000	.000	.000	.000		.000	.000
	N	427	427	427	427	427	427	427	427
User Satisfaction	Pearson Correlation	.578**	.593**	.627**	-.317**	.682**	.791**	1	.768**
	Sig.(2 tailed)	.000	.000	.000	.000	.000	.000		.000
	N	427	427	427	427	427	427	427	427
Continuous Usage of Mobile Banking Services	Pearson Correlation	.585**	.579**	.558**	-.273**	.678**	.676**	.768**	1
	Sig.(2 tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	427	427	427	427	427	427	427	427

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

APPENDIX – C

(a) Frequencies Test

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	M	137	32.1	32.1	32.1
	F	290	67.9	67.9	100.0
	Total	427	100.0	100.0	

Age

Summary of the Results		Summary of the Results	Summary of the Results	Summary of the Results	Summary of the Results
Valid	18-25	48	11.2	11.2	11.2
	26-30	108	25.3	25.3	36.5
	31-40	157	36.8	36.8	73.3
	41-50	87	20.4	20.4	93.7
	Above 50	27	6.3	6.3	100.0
	Total	427	100.0	100.0	

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	235	55.0	55.0	55.0
	Married	180	42.2	42.2	97.2
	Widowed/Divorced	12	2.8	2.8	100.0
	Total	427	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undergraduate	6	1.4	1.4	1.4
	Graduate	254	59.5	59.5	60.9
	Master Degree	167	39.1	39.1	100.0
	Total	427	100.0	100.0	

Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Business owner	28	6.6	6.6	6.6
	Government staff	138	32.3	32.3	38.9
	Private staff	223	52.2	52.2	91.1
	Student	5	1.2	1.2	92.3
	Other	33	7.7	7.7	100.0
	Total	427	100.0	100.0	

Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 200000	21	4.9	4.9	4.9
	200001-300000	114	26.7	26.7	31.6
	300001-400000	119	27.9	27.9	59.5
	More than 400000	173	40.5	40.5	100.0
	Total	427	100.0	100.0	

Bank Name

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	AYA	94	22	22	22
	CB	73	17	17	39
	UAB	51	12	12	51
	KBZ	175	41	41	92
	MAB	34	8	8	100.0
	Total	427	100.0	100.0	

Duration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than one year	29	6.8	6.8	6.8
	Between 1-3 years	75	17.6	17.6	24.4
	Above 3 years	323	75.6	75.6	100.0
	Total	427	100.0	100.0	

Frequency per month

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5	168	39.3	39.3	39.3
	6-10	122	28.6	28.6	67.9
	11-15	61	14.3	14.3	82.2
	16-20	22	5.2	5.2	87.4
	21-25	54	12.6	12.6	100.0
	Total	427	100.0	100.0	

Banking services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To transfer money	242	56.7	56.7	56.7
	To pay utility bills	89	20.8	20.8	77.5
	To get account balance update	30	7.0	7.0	84.5
	To buy goods or services	47	11.1	11.1	95.6
	Payroll services	19	4.4	4.4	100.0
	Total	427	100.0	100.0	

Reason

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	24 hr/7 day operation	151	35.4	35.4	35.4
	Time saving	208	48.7	48.7	84.1
	Free checking account	59	13.8	13.8	97.9
	using for purchase	9	2.1	2.1	100.0
	Total	427	100.0	100.0	

APPENDIX - C

(b) Reliability Test: Reliability Statistics

Perceived Usefulness

Cronbach's Alpha	No. of Items
.910	16

Perceived Ease of Use

Cronbach's Alpha	No. of Items
.865	19

Perceived Trust

Cronbach's Alpha	No. of Items
.954	16

Perceived Risk

Cronbach's Alpha	No. of Items
.921	14

Adoption of Mobile Banking Services

Cronbach's Alpha	No. of Items
.898	8

User Experience

Cronbach's Alpha	No. of Items
.947	16

User Satisfaction

Cronbach's Alpha	No. of Items
.928	12

Continuous Usage

Cronbach's Alpha	No. of Items
.942	7

APPENDIX - C

(c) Validity Test

Perceived Usefulness

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.923
Bartlett's Test of Sphericity	Approx. Chi-Square	3167.751
	df	120
	Sig.	.000

Perceived Ease of use

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.934
Bartlett's Test of Sphericity	Approx. Chi-Square	4105.266
	df	171
	Sig.	.000

Perceived trust

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.955
Bartlett's Test of Sphericity	Approx. Chi-Square	5159.415
	Df	120
	Sig.	.000

Perceived risk

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.927
Bartlett's Test of Sphericity	Approx. Chi-Square	3309.689
	df	91
	Sig.	.000

Adoption of mobile banking services

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.923
Bartlett's Test of Sphericity	Approx. Chi-Square	1740.605
	df	28
	Sig.	.000

User Experience

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.939
Bartlett's Test of Sphericity	Approx. Chi-Square	5038.074
	df	120
	Sig.	.000

User satisfaction

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.943
Bartlett's Test of Sphericity	Approx. Chi-Square	3195.987
	df	66
	Sig.	.000

Continuous usage

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.926
Bartlett's Test of Sphericity	Approx. Chi-Square	2547.038
	df	21
	Sig.	.000

Descriptive Statistics

Perceived Usefulness

No.	Statement	Mean	Standard Deviation
	Speed and Accuracy		
1	Mobile banking does not take too much time to use.	4.24	.738
2	Transaction speed in mobile banking is good.	4.16	.742
3	Mobile banking is a cost-effective process.	4.17	.740
4	The bank's mobile banking services are acceptable for speed and security.	3.88	.689
5	Mobile banking is less time-consuming than other banking options.	4.25	.648
6	There is high internet speed for mobile banking users.	3.51	.815
	Overall Mean	**4.03**	
	Mobility access		
1	Mobile banking allows me to do my banking anywhere/ anytime	3.64	.964
2	Mobile banking is more accessible than visiting a bank.	4.22	.658
3	Mobile banking transfers can be made by using any telecommunication service.	4.16	.693
4	The transaction process is accurate.	3.98	.699
5	Mobile banking gives me greater control over financial transactions.	3.36	.763
	Overall Mean	**3.93**	
	Function & Convenient system		
1	Mobile banking is a low-cost transaction process.	3.98	.710
2	Mobile banking services can be used widely for various financial transactions.	4.04	.660
3	Mobile banking is convenient to use.	4.05	.646
4	The current mobile banking functions allow doing different tasks (e.g.: balance checking, money transfer, phone bill filling……..ect,	4.35	.610
5	Mobile banking system is convenient because the phone is usually with me.	4.07	.766
	Overall Mean	**4.10**	

Perceived Ease of Use

No.	Statement	Mean	Standard Deviation
	Compatibility		
1	I use mobile banking because I have seen someone else using it.	3.31	1.761
2	I use mobile banking because someone has shown me how to do it.	2.91	1.050
3	Learning to use mobile banking is easy for me.	4.08	.618
4	Using mobile banking, I can send and receive money.	4.31	.595
5	Mobile banking is easy to operate the function.	4.16	.606
6	Mobile banking is easy to make transfer money.	4.27	.591
	Overall Mean	**3.81**	
	Self-Efficiency		
1	The mobile banking registration process is sampling.	3.92	.660
2	The instructions on mobile banking are clear to me.	4.08	.608
3	Mobile banking makes it easier for me to do my bank transactions.	4.17	.673
4	Mobile banking helps me to know faster the state of my account.	2.93	.906
5	I am sure to use mobile banking without any errors in transactions.	3.70	.888
6	Mobile banking is easy to use.	4.04	.729
7	Mobile banking is available all the time.	3.74	.834
	Overall Mean	**3.80**	
	Efficient transaction		
1	Using mobile banking does not require one to leave home or office to perform the service.	4.26	.743
2	Using mobile banking does not require a lot of mental effort.	4.06	.684
3	Mobile banking services can be used whenever wanted.	3.96	.767
4	I can react immediately to the service need.	3.91	.714
5	Using mobile banking does not require a lot of energy.	4.02	.685
6	Using mobile banking can reduce costs.	3.98	.793
	Overall Mean	**4.30**	

Perceived Trust

No.	Statement	Mean	Standard Deviation
	Image		
1	The Bank's financial performance of the bank is secure and sound.	3.79	.770
2	The bank has an acceptable number of branches.	3.94	.679
3	The bank has adequate capital.	3.87	.700
4	Bank's decoration is consistent with its image.	3.94	.690
5	The bank has an acceptable bank life.	3.99	.671
	Overall Mean	**3.91**	
	Availability		
1	I believe that the prevention of loss of access to information.	3.73	.760
2	I believe that information is available for use when it is needed.	3.66	.713
3	I believe that the information requested is always access able the authorized users.	3.69	.718
4	I believe that I have received enough information about mobile banking.	3.77	.695
5	I believe that my information is kept confidential.	3.49	.818
	Overall Mean	**3.67**	
	Integrity		
1	Mobile banking systems absolutely must protect their customer's data.	3.70	.725
2	Unauthorized persons cannot view transaction information.	3.75	.773
3	Bank provides personal service to the customer.	3.80	.687
4	Bank has always been able to provide accurate and convenient financial transaction services.	3.89	.723
5	The bank provides the ability to protect and prevent fraud and information misuse.	3.76	.733
	Overall Mean	**3.78**	

Perceived Risk

No.	Statement	Mean	Standard Deviation
	Security & privacy risk		
1	Mobile banking faces the possibility of data loss and fraud.	3.26	.962
2	I am afraid that I can lose money when the amount of the transfer is large.	3.05	.999
3	I am worried that someone might get my private information.	3.27	1.00
4	There is a fear of using mobile banking due to hacking.	3.01	.934
5	Although mobile banking is one of the latest and most useful technological applications, there may be security risks.	3.39	.887
	Overall Mean	**3.20**	
	Performance risk		
1	Due to transaction errors, there might be a loss of money.	3.49	.943
2	Mobile banking requires many steps and complications.	2.52	.829
3	There may be some mistakes in the process of using mobile banking.	3.14	.881
4	The current mobile banking services are not yet complete.	2.85	.869
5	The quality of the current mobile banking is not yet stable.	2.66	.912
	Overall Mean	**2.93**	
	Financial risk		
1	The level of uncertainty about the financial service conducted through the use of mobile phones is high.	2.73	.890
2	Mobile phone theft inhibits my adoption of mobile financial services.	3.11	.979
3	Mobile banking ineffectively manages my financial services.	2.67	.897
4	When transferring money through mobile banking, the user is afraid that he/she will lose money due to carelessness and mistakes.	2.30	.875
	Overall Mean	**2.70**	

Adoption of Mobile Banking Services

No.	Statement	Mean	Standard Deviation
1	I like to use mobile banking services if paying bills is cheaper.	3.74	.736
2	I like to use mobile banking services which have faster data transmission rates.	3.91	.633
3	I like to use mobile banking services because I can transfer money from one account to another.	4.03	.626
4	I like to use mobile banking services because I can pay bills as the user requires.	4.12	.639
5	I like to use mobile banking services because I can get various customer services.	3.88	.669
6	I like to use mobile banking services because I can search account related information.	4.04	.615
7	I like to use mobile banking services because I can conduct banking transactions easily.	3.99	.613
8	I like to use mobile banking services because I have greater control over my banking transactions.	4.04	.631
	Overall Mean	**3.97**	

Source: Survey Data, 2022

User Experience

No.	Statement	Mean	Standard Deviation
	Communication		
1	Bank advertisements are useful in reaching customers.	3.45	.744
2	The bank's advertising is always noticeable.	3.38	.709
3	The bank's advertising is always effective.	3.40	.732
4	The bank's website is able to provide updated information.	3.42	.769
5	Bank takes responsibility if the customer forgets the username and password.	3.84	.696
6	I have received enough information about mobile banking.	3.66	.718
	Overall Mean	**3.52**	
	Employee-customer interaction		
1	Employees are helpful to explain customer needs.	3.82	.718
2	The bank's employees are given friendly and courteous manner of customers.	3.71	.834
3	Employees are skillful in their work.	3.82	.708
4	The bank's employees can supply personalized services and advice to the customers.	3.57	.755
5	The bank's employees can rapidly make a response to customer problems.	3.49	.865
	Overall Mean	**3.68**	
	Service fit to customer need		
1	The assortment of services offered by the bank is extensive.	3.91	.568
2	Mobile banking services offered by banks are fit for customer needs.	3.75	.659
3	The bank's branch employees are helpful to explain service features.	3.74	.692
4	The assortment of products offered by the bank is suitable for the current situation.	3.63	.704
5	Mobile banking services offered by banks are clear and transparent information.	3.65	.704
	Overall Mean	**3.73**	

Source: Survey Data, 2022

Customer Satisfaction

No.	Statement	Mean	Standard Deviation
1	I am satisfied with the time taken for mobile banking services.	3.49	.818
2	I am satisfied with banking transactions using mobile banking services.	3.76	.635
3	I am satisfied with easy-to-use mobile banking services.	3.84	.611
4	I am satisfied with clear and easy-to-understand instructions for mobile banking services.	3.79	.625
5	I am satisfied with the mobile banking service for banking transaction data protection.	3.67	.717
6	I am satisfied with the usefulness of mobile banking.	3.92	.614
7	I am satisfied with the protection against fraud and data transmission errors in mobile banking.	3.52	.745
8	I am satisfied charges for mobile banking are less compared with other services.	3.74	.673
9	I am satisfied false transaction occurs refund facility.	3.39	.771
10	I am satisfied easily with the availability of the mobile network.	3.55	.799
11	I am satisfied mobile banking is easy to make transfer funds.	3.97	.575
12	I am satisfied with various services in mobile banking.	3.84	.669
	Overall Mean	**3.71**	

Source: Survey Data, 2022

Continuous Usage

No.	Statement	Mean	Standard Deviation
1	I am sure to use mobile banking continuously in the future.	4.07	.681
2	If there is a need to use mobile banking in the future, I will use mobile banking for my bank transactions.	4.03	.625
3	In addition to necessary use in the future, I will also actively increase the frequency of use of mobile banking.	3.86	.721
4	The useful condition of mobile banking forces me to use mobile banking in the near future.	3.91	.708
5	The easy ways to use mobile banking attract me to continuously use it.	3.93	.688
6	The trust and confidence level of mobile banking forces me to use mobile banking continuously.	3.76	.725
7	I intend to use mobile banking continuously than use any alternative means.	3.88	.679
	Overall Mean	**3.92**	

Source: Survey Data, 2022

Summary Table

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Perceived usefulness	427	1.13	5.00	4.0234	.47301
Perceived ease of use	427	1.79	5.00	3.8748	.44634
Perceived trust	427	1.50	5.00	3.7849	.55989
Perceived risk	427	1.00	5.00	2.9597	.64532
Adoption of mobile banking services	427	1.50	5.00	3.9669	.49308
User experience	427	1.50	5.00	3.6408	.54221
User satisfaction	427	1.50	5.00	3.7065	.51797
Continuous usage of (MBS)	427	1.00	5.00	3.9207	.59426
Valid N (listwise)	427				

Regression Analysis

A. Influencing Factors on Adoption of Mobile banking Services

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.659[a]	.434	.429	.372

a. Predictors: (Constant), Perceived usefulness, Perceived ease of use, Perceived Trust and perceived risk

b. Dependent Variable: Adoption of mobile banking services

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44.949	4	11.237	80.891	.000[b]
	Residual	58.624	422	.139		
	Total	103.573	426			

a. Dependent Variable: Adoption of mobile banking services

b. Predictors: (Constant), Perceived usefulness, Perceived ease of use, Perceived trust and Perceived risk

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.778	.223		3.493	.001		
	Perceived usefulness	.209	.062	.201	3.351	.001	.375	2.669
	Perceived ease of use	.355	.066	.321	5.366	.000	.375	2.668
	Perceived trust	.217	.044	.247	4.897	.000	.529	1.890
	Perceived risk	-.051	.030	-.067	-1.683	.093	.846	1.181

a. Dependent Variable: Adoption of mobile banking services

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.13	5.00	4.02	.473	427
Std. Predicted Value	1.79	5.00	3.87	.446	427
Standard Error of Predicted Value	1.50	5.00	3.78	.559	427
Adjusted Predicted Value	1.00	5.00	2.95	.645	427

a. Dependent Variable: Adoption of mobile banking services

B. Adoption of Mobile banking Services on User Satisfaction

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.682[a]	.466	.464	.379

a. Predictors: (Constant), Adoption of mobile banking services

b. Dependent Variable: User Satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.291	1	53.291	370.334	.000[b]
	Residual	61.074	422	.144		
	Total	114.291	426			

a. Dependent Variable: User Satisfaction

b. Predictors: (Constant), Adoption of mobile banking services

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.863	.149		5.796	.000		
	AMBS	.717	.037	.682	19.244	.000	1.000	1.000

a. Dependent Variable: Satisfaction

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Satisfaction	1.50	5.00	3.70	.517	427

Dependent Variable: User Satisfaction

C. Moderating Effect of User Experience on Adoption of Mobile banking services and User Satisfaction

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.823	.677	.676	.29490
2	.824	.680	.677	.29422

a. Predictors: (Constant), Userexp,AMBS

b. Dependent Variable: Satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	77.420	2	38.710	445.125	.000
	Residual	36.873	424	.087		
	Total	114.293	426			
2	Regression	77.675	3	25.892	299.092	.000
	Residual	36.618	423	.087		
	Total	114.293	426			

a. Dependent Variable: User Satisfaction

b. Predictors: (Constant), User experience, Adoption of mobile banking services

c. Predictors: (Constant), User experience, Adoption of mobile banking services, (AMBS) User experience

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.384	.119		3.222	.001		
	AMBS	.310	.038	.295	8.194	.000	.586	1.707
	User experience	.574	.034	.601	16.682	.000	.586	1.707
2	(Constant)	.348	.121		2.873	.004		
	AMBS	.319	.038	.304	8.372	.000	.574	1.742
	User experience	.517	.034	.598	16.614	.000	.584	1.712
	AMBS User experience	.015	.009	.048	1.716	.087	.978	1.023

a. Dependent Variable: User Satisfaction

b. Predictors: (Constant), User experience, Adoption of mobile banking services

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
User experience	1.50	5.00	3.640	.542	427

a. Dependent Variable: User Satisfaction

D. User satisfaction and Continuous Usage of Mobile Banking Services

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.768[a]	.590	.589	.380

a. Predictors: (Constant), User Satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.826	1	88.826	612.731	.000[b]
	Residual	61.611	422	.145		
	Total	150.438	426			

a. Dependent Variable: Continuous usage of mobile banking services

b. Predictors: (Constant), User satisfaction

Coefficients[a]

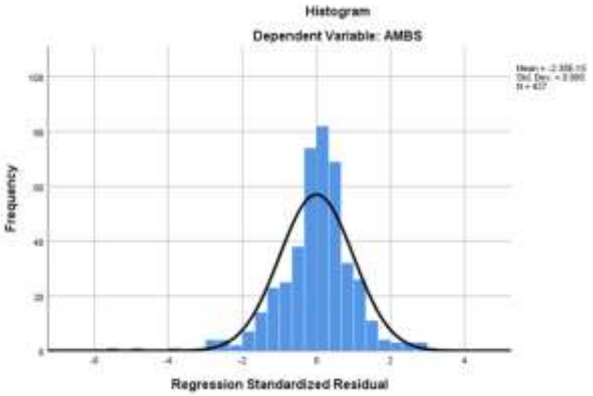
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.653	.133		4.900	.000		
	Satisfaction	.882	.036	.768	24.753	.000	1.000	1.000

a. Dependent Variable: CUMBS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Satisfaction	1.50	5.00	3.70	.5179	427
Continuous usage	1.00	5.00	3.92	.594	427

a. Dependent Variable: Continuous usage of mobile banking services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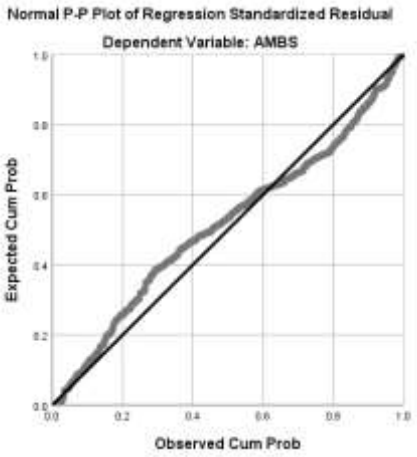
Dependent Variable: AMBS
Frequency
Regression Standardized Residual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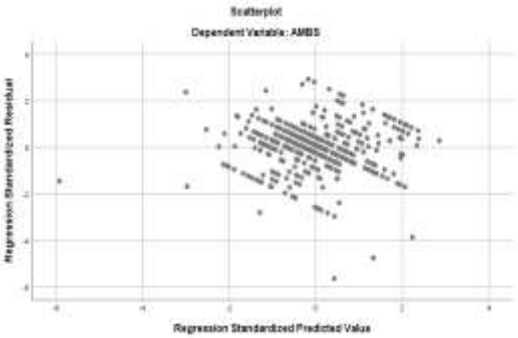
Dependent Variable: AMBS
Expected Cum Prob
Observed Cum Prob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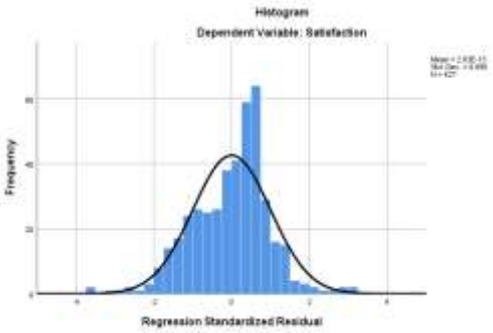
Regression Standardized Residual
Regression Standardized Predicted Value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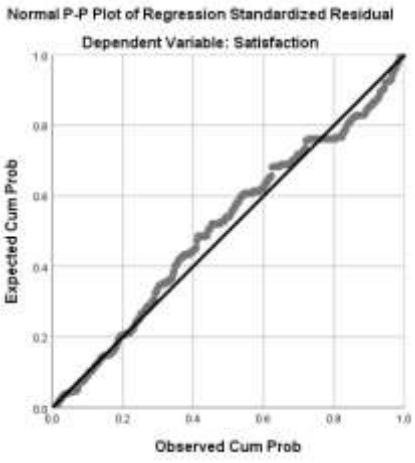
Dependent Variable: Satisfaction
Frequency
Regression Standardized Residual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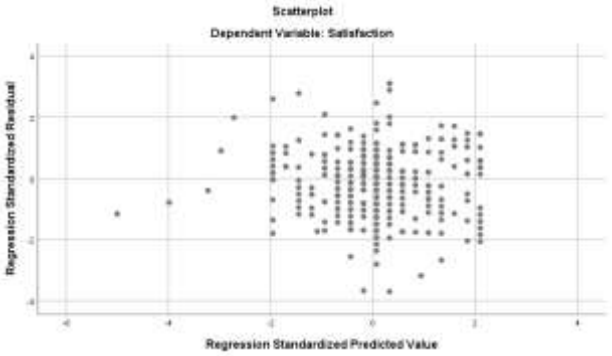
Dependent Variable: Satisfaction
Expected Cum Prob
Observed Cum Prob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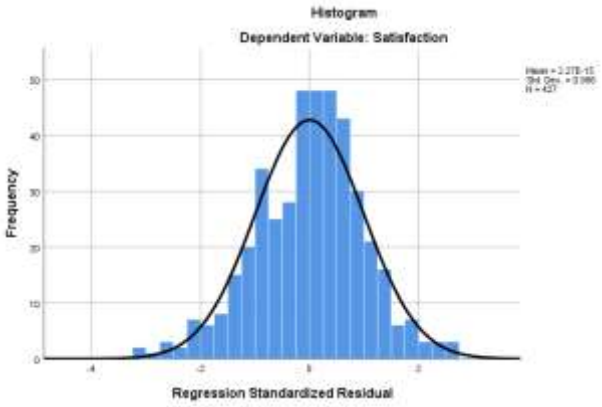
Regression Standardized Predicted Value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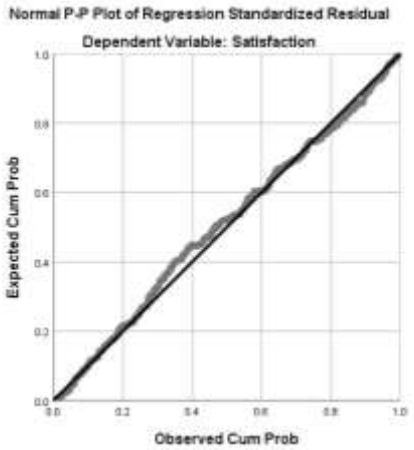
Frequency
Regression Standardized Residual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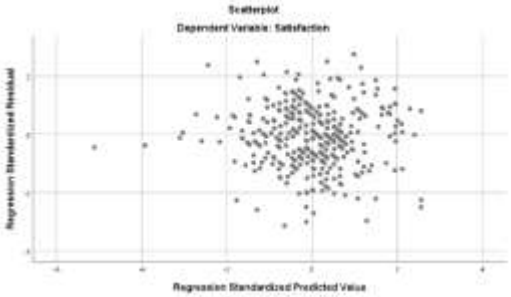
Expected Cum Prob
Observed Cum Prob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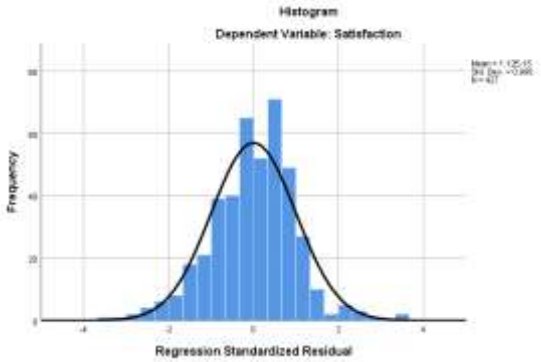
Regression Standardized Residual
Regression Standardized Predicted Value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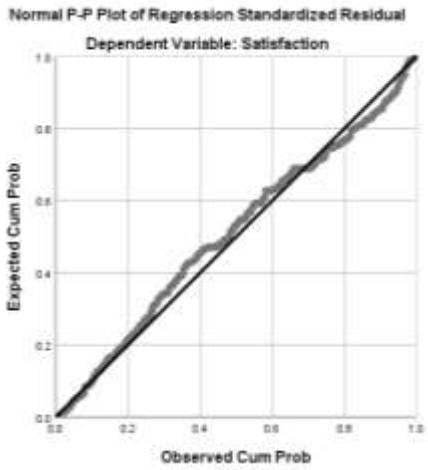
Frequency
Regression Standardized Residual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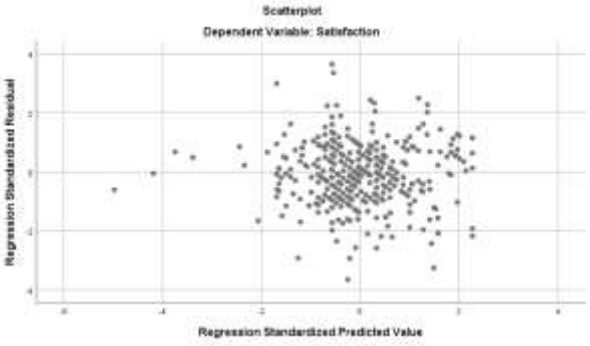
Dependent Variable: Satisfaction
Expected Cum Prob
Observed Cum Prob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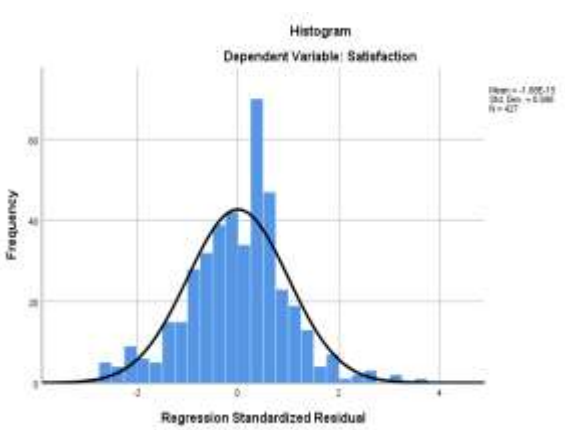
Regression Standardized Residual
Regression Standardized Predicted Value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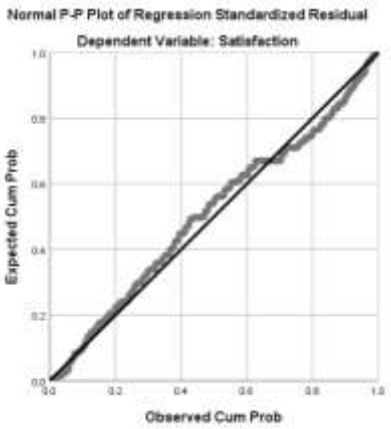
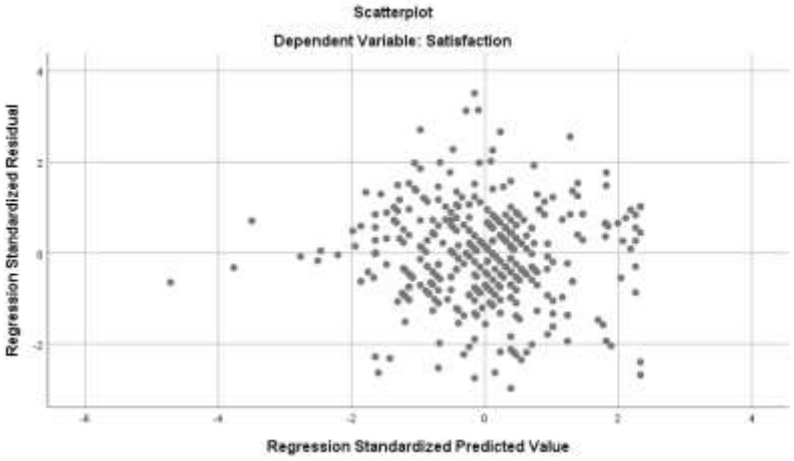
Dependent Variable: Satisfaction
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Satisfaction
Expected Cum Prob
Observed Cum Prob


Scatterplot
Dependent Variable: Satisfaction
Regression Standardized Residual
Regression Standardized Predicted Value