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MOBILE BANKING ACTIVITIES AND TECHNOLOGY ACCEPTANCE MODELS AND THEORIES: A CASE STUDY OF UGANDA

(MOBİL BANKACILIK FAALİYETLERİ VE TEKNOLOJİ KABUL MODELLERİ VE TEORİLERİ: UGANDA ÖRNEĞİ)

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ÖZET

Buluşların kabulü tüketiciler tarafından, evrensel olarak tartışılan önemli konular arasındadır. Bu, buluşların kabulünü açıklayan çok sayıda model ve teorinin oluşmasına yol açmıştır. Bunların arasında, mobil bankacılık uygulamaları gibi buluşları kabul etmek için temel unsurları olarak algılanan kullanım kolaylığı ve algılanan faydaya dayanan teknoloji kabul modeli bulunmaktadır. Mobil bankacılık uygulamaları, dünya çapında kabul edilen ve bankacılık sektörde ilerleme için fırsatlar sağlayan son bankacılık uygulamalardır.

Çalışmanın amaçları: Uganda'nın Kampala ilindeki mobil bankacılık faaliyetlerini etkileyen teknoloji kabul modelleri ve teorilerinin unsurlarını gerçekleştirmek; Uganda'da mobil bankacılık faaliyetlerinin ne ölçüde başarılı olduğu incelemek; Uganda'da yürütülen mevcut mobil bankacılık faaliyetlerini değerlendirmektir. Çalışmada, anketler vasıtasıyla toplanan ve değerlendirilen birincil verilere dayanarak tanımlayıcı bir araştırma tasarımı uygulamaktadır. Ayrıca, bu verileri değerlendirmek için faktör analizi, Anova, Bağımsız T testi ve Regresyon analizi uygulanmış. Örneklem, bankacılık ve bankacılık dışı devlet çalışanları, özel sektör çalışanları, öğrenciler ve Kampala eyaletinin diğer vatandaşlardan 21 yaş ve üstü 250 katılımcıdan oluşturmuştu. Bulgular hipotezleri desteklerken, kullanıcıların demografik özelliklerinin etkisi belirtilmemiştir. Regresyon analizi, mobil bankacılık faaliyetleri ile teknoloji kabul modelleri ve teorileri arasında bir ilişki olduğunu ortaya koymuştur. Araştırmacı, mobil bankacılık faaliyetlerinin gerçekleştirilmesinin

yararları hakkında farkındalığın yaygınlaştırılması için çok çaba harcanması gerektiğini önermektedir.

Anahtar Kelimeler: Teknoloji Kabulü, Davranışsal Niyet, Algılanan Kullanım Kolaylığı ve Algılanan Fayda.

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ABSTRACT

The acceptance of inventions is among the notable topics that are discussed universally. This has led to the formation of numerous models and theories to explain the acceptance of inventions. Among them is the technology acceptance model which relies on perceived ease of use and perceived usefulness as its principal constructs for the acceptance of inventions such as; mobile banking applications. Mobile banking applications are recent banking inventions that are accepted worldwide which grant opportunities for advancement of the banking industry.

The aims of the study are: to reveal the constructs of technology acceptance models and theories that affect mobile banking activities in Kampala province of Uganda; to examine the degree at which mobile banking activities are carried out in Uganda; and to evaluate the mobile banking activities in Uganda. The study administers a descriptive research design to assess primary data. It applies Factor analysis, Anova test, Independent sample T-tests and Regression analysis to assess such data. Its population sample has 250 participants including; non-banking and banking government employees, private sector employees, students and others ranging from 21 years residing in Kampala, Uganda. The findings support the hypotheses while the impact of the users' demographic features is not indicated. Regression analysis proves a relationship between mobile banking activities and technology acceptance models and theories. The researcher proposes that much effort should be put in spreading awareness about the benefits of carrying out mobile banking activities.

Keywords: Technology Acceptance, Behavioural Intention, Perceived Ease of Use and Perceived Usefulness.

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LIST OF ABBREVIATIONS

BC:	Behavioural Control
BI:	Behavioural Intention
C-TAM&PBT:	Combined Technology Acceptance Model and Planned Behaviour Theory
DPBT:	Decomposed Planned Behaviour Theory
FC:	Facilitating Conditions
IDT:	Innovation Diffusion Theory
IT:	Information Technology
MBA:	Mobile Banking Activities
PBT:	Planned Behaviour Theory
PCUM:	Personal Computer Utilization Model
PEoU:	Perceived Ease of Use
PU:	Perceived Usefulness
RAT:	Reasoned Action Theory
SCT:	Social Cognitive Theory
S.D:	Standard Deviation
SN:	Subjective Norm
TAM:	Technology Acceptance Models
UTAUT:	Unified Theory of Acceptance and Use of Technology

INTRODUCTION OF THE STUDY

Change is a global rule that is forcing every field to acknowledge new banking innovations. Banking is a term where financial institutions encourage the clients to deposit more of their savings which are then redirected appropriately to meet the institutions' aims. This relies on the business-client relationship which can be affected by failing to fulfil clients' needs. Such needs may not be satisfied if they are complicated. To solve this, financial organizations must first learn what clients expect from them and follow the necessary procedures to fulfil these expectations. Clients' expectations are now fulfilled via online techniques to render faster and simple services. Such online techniques encourage clients to undertake mobile banking activities (MBA) to access funds from anywhere while saving time (Bilgin, 2001, p. 2). Also, transactions are done on mobile devices hence backing up online banking and substituting computers with more portable gadgets. MBA can be advanced by cutting down charges, keeping in touch with clients and enhancing client experiences to strengthen their loyalty (Udeh, 2008, p. 147).

MBA in Uganda are newly carried out thereby proving the low rate at which they exist. However, they are gaining publicity with the escalating use of mobile devices and the internet. This because they are essential therefore are applied broadly in every-day operations (Douglas & Paul, 2017, p. 56). Furthermore, MBA are escalating through rendering a variety of mobile monetary services hence providing a guarantee to handle clients extensively (Venkatesh & Davis, 2000, p. 189).

There are countless models and theories that clarify and forecast the level at which mobile banking technology could be accepted. These include the technology acceptance models (TAM) and theories that are incorporated into analytical and factual assumptions to ascertain how clients undertake mobile banking activities (Heijden, 2003, p. 541).

This study includes demographic features and client loyalty as other vital components that play a role in the acceptance of mobile banking inventions. Client loyalty is relied on as it analyses the rate at which MBA are carried out. It also dictates the success

of inventions and the survival of service institutions therefore it is very crucial (Fredrick & Isak, 2018, p. 41).

Uganda has initiated the utilization of mobile monetary inventions to bring in development while raising the standards of living for people at the bottom of the pyramid to escape poverty. Therefore with the assistance of client loyalty, demographic features and TAM models and theories, the study exposes how and when people undertake MBA.

CHAPTER ONE
TECHNOLOGY ACCEPTANCE MODELS AND THEORIES

This chapter entails the; definitions of technology, technology adoption, technology acceptance, customer loyalty, technology acceptance models (TAM) and theories as well as their merits and constraints.

1.1. Definitions of Technology

This subsection clarifies the definitions of technology according to numerous researchers as presented here:

Technology is known as scientific intelligence which is applied to balance trade operations. It is a title commonly referring to computers, mobile gadgets, entertainment, space, etc. It is also applied in the functions of production (Bongo-Keun & Tom, 2013, p. 8). Moreover, technology is a gadget or electronic guideline formed by a person's mind-set (Davis, Bagozzi, & Warshaw, 1989, p. 984). It is intelligence which handles the formation and utilization of techniques that are related to life or a society (Ainin, Noor, & Suhana, 2007, p. 4). It involves techniques, systems and devices used for managing the environment or daily life (Ajzen, 2002, p. 9). Technology is intelligence applied in industrial and scientific procedures. It is a technique or resource which yields financial benefits and business goals. It is a combination of digital products and systems that are used as office inventions (Amin, 2007, p. 12). Furthermore, technology is knowledge which exists in communities. It is beneficial to trends, manual works, expertise and resources. It involves methods that are applied to render goods and services to communities (Dishaw & Strong, 1999, p. 10).

1.1.1. The History of Technology

Technology has been evolving throughout the stone-age era. It originated by generating simple equipment from wood and stone. This led to the path of modern-day inventions after fire, heat and light were invented. Technology continued to advance

throughout the bronze-age era as intelligence improved. In this era, people kept on creating more durable equipment from metal for example; wheels (Green, 2005, p. 3). Then, it progressed to the iron-age era which brought improvement and modernization. Here, hard metals were produced without relying on copper and tin minerals. Also, it was during this era that people got exposed to smelting iron and differentiating it from ore which is a metal-like mineral or rock. From this era, technology progressed further leading to diverse weapons and equipment which were used to advance transport networks and production. It proceeded to advance to what it is now. All this proved how intelligence led to the development of technology (Alaa & Mamoun, 2017, p. 4).

1.1.2. Categories of Technology

Technology is classified into many categories depending on the fields where it is applied as detailed:

Communication technology is applied in individual or work surroundings to share data, simplify interactions and support the exchange of opinions. It is applied prominently in daily life settings. With the advancement in communication technology, interacting from distant locations is easy and affordable (Wang, Wang, Lin, & Tang, 2003, p. 503). It directs information to different parties involved swiftly. It passes on clients' queries and essential resolutions quickly (Knight, 2004, p. 17). Another category is product technology which involves understanding the features of a product and developing it depending on the market's desires (Kurbanoglu, Akkoyunlu, & Umay, 2006, p. 731). Additionally, business technology involves hardware and software devices. It administers data and science to assist organizations in achieving their trade goals. It is used in organized operations to make commercial transactions (Oliveira & Martins, 2011, p. 112). Lastly, information technology (IT) consists of software and hardware that direct and save authentic data for its users. It is applied in transactions to accomplish administrational duties in time (Ainin et al., 2007, p. 10).

1.2. Technology Adoption

Technology is sometimes referred to as an invention or innovation which is accepted and used successfully. Inventing technologies that can be adopted quickly is critical as client desires are changing with time.

1.2.1.1. Definitions of Technology Adoption

There are numerous definitions of Technology adoption as mentioned here:

Adoption is where clients accept a product or service while maintaining its functions. Additionally, technology adoption refers to acquiring a specific technique and using it to carry out any desired tasks (Thakur, 2013, p. 10). It is the level at which technology is used to simplify organizational or day-to-day operations (Wijngaert & Bouman, 2009, p. 90). Technology adoption refers to using modern operational structures and systems to meet the expected goals. It involves undergoing procedures for utilizing new techniques in all operations (Udeh, 2008, p. 149). Technology adoption is a process that begins with recognizing a certain technology and taking the necessary steps to utilize it. It refers to applying both hardware and software techniques in companies to enhance their competitive strength and meet their targets (Amin, 2007, p. 22). Technology is easily adopted if clients understand how it operates. Besides, if clients develop a positive attitude towards a specific technique, then utilizing it is simple (Davis, 1989, p. 322).

1.3. Technology Acceptance

Technology acceptance is very vital in various operational sectors as it involves accepting to utilize specific technology. Technology Acceptance includes examining constructs for instance; technology's operability, cost or value.

1.3.1. Definitions of Technology Acceptance

Here are a few definitions of Technology Acceptance:

Technology acceptance involves using a certain technique to accomplish any tasks at hand and provide benefits to the communities (Venkatesh, Thong, & Xu, 2012, p. 159).

It is a process through which clients accept to utilize specific technology to satisfy their needs. Technology Acceptance refers to having a positive perspective of using technology to get tasks done (Davis, 1989, p. 320). It is a multi-functional field which focuses on psychology and existing information to evaluate the clients' perspectives towards technology (Truong, 2009, p. 178).

1.3.2. The Background of Technology Acceptance

The acceptance of technology depends on new technological applications like mobile banking. Mobile banking involves using mobile gadgets to deliver electronic monetary services to clients with no need to go to financial organizations. It is evolving due to the introduction of the internet and such gadgets. Mobile banking is applied widely by fast-paced economies which consider time as a key aspect. Also, people prefer to run errands at high-speed over their mobile gadgets which are highly used worldwide in contrast to personal computers (Bongo-Keun & Tom, 2013, p. 10). Mobile banking is supported by communication technology and administered through mobile devices. It is a superior digital substitute for automated teller machines to allow online financial operations. Mobile banking saves time for running simple errands such as; inspecting account balances or sending funds to different accounts (Alaa & Mamoun, 2017, p. 8).

The growing technology is connecting the world on both business and social platforms. In business terms, technology is assisting financial organizations to render easy and fast mobile banking services to their clients. For instance; electronic payments or transfers (Francisco Muñoz-Leiva et al, 2017, p. 40).

The acceptance of technology is driven by some constructs for instance, perceived usefulness (PU), perceived ease of use, confidentiality, loyalty and self-efficacy. Self-efficacy refers to utilizing technology to accomplish any work duties (Bongo-Keun & Tom, 2013, p. 15). Technology is accepted after clients have comprehended its benefits and can overcome its threats. Such clients are early adopters who have confidence in technology (Xin, Han, Zhang, & Shim, 2010, p. 225). The acceptance of technology like

mobile banking applications is evaluated through technology acceptance models and theories that highlight the utilization or rejection of new techniques.

1.4. Technology Acceptance Models and Theories

Technology Acceptance Models (TAM) and Theories assist in clarifying how technology is accepted on a large scale. Technology acceptance has been analyzed since the 1970s as organizations needed to understand the motives that made clients to accept or shun a given technology (Alaa & Mamoun, 2017, p. 6). TAM models and theories involve constructs that ascertain how and when technology is applied. Such constructs are examined in numerous studies where their resemblances and differences are exposed (Venkatesh, Morris, Davis, & Davis, 2003, p. 428).

Numerous models and theories were developed to enlarge the initial ones. Their application in the acceptance of mobile banking inventions has been illustrated in many studies. Amongst the main models and theories include the Motivational Model, Social Cognitive Theory, Innovation Diffusion Theory, Fishbein model, Reasoned Action Theory (RAT) which was extended to Planned Behaviour Theory (PBT). PBT was further extended to Decomposed Planned Behaviour Theory which led to Technology Acceptance Model 1 (TAM 1). TAM 1 was expanded to TAM 2 then TAM 3 due to evolution of IT. TAM and PBT's integration led to combined TAM and PBT. Furthermore, Personal Computer Utilization Model, Unified Theory of Acceptance and Use of Technology (UTAUT 1) and lastly UTAUT 2 were also formed (Venkatesh & Davis, 2000, p. 193). All these evaluate the extent to which people accept technology (Nafsaniath, 2015, p. 26).

Some components such as; suitability, self-efficacy and technical complications are believed to impact perceived usefulness (PU) and perceived ease of use (PEoU). PEoU is an extent to which an innovation is simple to apply. It is a level at which a person quickly understands a certain technology. Moreover, PU is a level at which people think that utilizing technology will speed up their work operations. Therefore, PU and PEoU affect the acceptance of technology (Davis, 1989, p. 324). They also impact behavioural intention (BI) which refers to a person's willingness to accept a technology (Davis et al.,

1989, p. 987). Once technology is hard to apply, accepting it becomes a problem. Nonetheless, if a technology is thought to be worthless, its simplicity does not entice people to implement it (Adams, Nelson, & Todd, 1992, p. 227).

Here are the Technology Acceptance Models and Theories with their constraints and relevancies to render an essential backup for future studies:

1.4.1. Motivational Model

Motivational Model is a foundation from which numerous theories were devised since the 1940s. Among these theories include Deci and Ryan's self-determination theory (SDT). SDT describes self-determination as acknowledging a person's preferences. It reflects how communal surroundings impact people's acceptance of technology (Davis, 1989, p. 330). SDT involves a self-determined conduct with some limits governing it and a regulative procedure which is a specific circumstance that could be adhered to or resisted (Venkatesh & Davis, 2000, p. 197).

The model assists in understanding the acceptance of new technology. It is classified into extrinsic motivation and intrinsic motivation. Extrinsic motivation is where an action is done to generate value. For instance; work accomplishments and payments are all fulfilled to bring out a benefit for both firms and employees. However, intrinsic motivation involves carrying out an action that is not compulsory but just for the sake of doing it (Davis et al., 1989, p. 990). Extrinsic motivation also refers to applying technology that is useful. Whereas intrinsic motivation refers to applying technology to gain pleasure and thus justifying the correlation between pleasure and perceived usefulness. Pleasure impacts behavioural intention (BI) for utilizing technology (Davis et al., 1989, p. 993).

1.4.1.1. Constraints of Motivational Model

Though the Motivational Model is practical, it has these shortcomings:

The model is not efficient enough to clarify the acceptance of technology though it is highly implemented in motivational researches and the medical sector. It requires more components to assess the utilization of technology (Venkatesh & Davis, 2000, p. 200).

1.4.2. Social Cognitive Theory (SCT)

SCT was created by Miller and Dollard in 1941 from Social Learning Theory (SLT) to reveal changes that exist within fundamental learning. In 1986, SCT and SLT were joined to strengthen SLT (Nafsaniath, 2015, p. 30). Later, the structure of SCT was re-modified to ascertain the rate at which people applied technology. SCT was expanded to evaluate how people understood technology while assessing self-efficacy and its effect on conduct. Self-efficacy involves differentiated technological features with related measurements. Its basic construct is communal forces with its effects on communal strength. SCT focuses on past experiences and consequences of conduct (Compeau & Higgins, 1995, p. 131).

1.4.2.1. Constraints of Social Cognitive Theory (SCT)

The constraints of SCT are discussed below:

SCT does not examine the relations between individuals, their conduct and the environment. It is complex and ineffective compared to other theories. For example, it states that any changes in the environment eventually change peoples' conduct without proving it. SCT supports individuals to attain knowledge but it does not emphasize the utilization of current technology. Also, it considers people's past experiences and beliefs as the only constructs that influence the acceptance of technology while ignoring other constructs (Compeau & Higgins, 1995, p. 132).

1.4.3. Innovation Diffusion Theory (IDT)

IDT was formulated in 1962 by Everett M. Rogers as a communal science theory for adopting inventions. It results from diffusion studies conducted in the 1950s that

concentrated on the differences of inventions. It incorporates constructs that ascertain human conduct for instance; inventions, diffusion and communication (Truong, 2009, p. 80). These constructs are explained in detail; Diffusion refers to a procedure through which information about innovations is communicated in a specific time interval. It refers to the utilization of an innovation by a community within a specific period. However, communication is defined as a way of passing on information amongst individuals to establish a uniform understanding. Lastly, an invention is a concept or item which is understandable and used productively (Rogers, 2003, p. 60).

Some features of inventions affect people's conduct thereby ascertaining if they are accepted. These comprise; relative advantage, trial-ability, complexity, compatibility and observability. Relative advantage refers to the amount of improvement within innovations in contrast to their earlier form. It is an extent at which the latest innovations are more superior compared to their previous versions (Saljoughi, 2002, p. 81). Trial-ability is the number of times innovations can be tested. Complexity is a degree at which an innovation is too complicated to be utilized. Compatibility refers to the capacity at which innovations can benefit their users. It is a rate at which an innovation fulfils the clients' standards, wants and experiences. Observability predicts how innovation's results can be interpreted or understood (Saljoughi, 2002, p. 92). Observability, relative advantage, trial-ability and compatibility features are positively correlated with the acceptance of innovations whereas complexity is not. Besides, compatibility and perceived usefulness (PU) are related to relative advantage whereas perceived ease of use (PEoU) is associated with complexity (Rogers, 2003, p. 70).

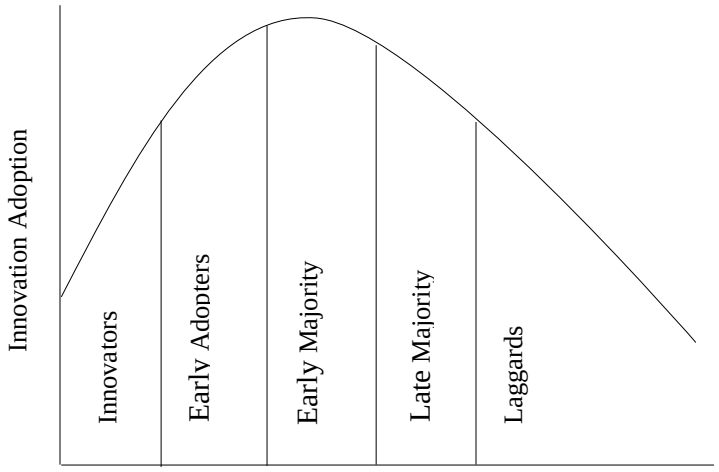
IDT is widely applied in the acceptance, assessment and administration of innovations. Here, assessing means estimating quantitative and qualitative research where the properties for the diffusion of innovations are developed. This helps to ascertain the constructs that determine the acceptance of innovations (Udeh, 2008, p. 150). IDT has components like the voluntariness of use and image. The voluntariness of use is a level at which utilizing an innovation is optional whereas; an image refers to a level at which

utilizing an innovation advances a person's rank or prestige within a community (Moore & Benbasat, 1991, p. 193).

Additionally, IDT reveals the speed at which an innovation diffuses in a given society. This assists in monitoring the constructs that explain the acceptance of innovations at personal or institutional levels (Oliveira & Martins, 2011, p. 115). These constructs are related to organizational and personal factors that contribute to the acceptance of recent innovations. The personal factors are classified into innovators and inventors. Inventors are the people who discover the inventions. They know about recent inventions and have positive perspectives towards them hence making them more knowledgeable. Furthermore, inventors voluntarily develop an invention then notify other individuals about its merits (Priyanka & Kumar, 2013, p. 53).

IDT has stages that make up the innovation adoption life cycle. These stages indicate how innovations get accepted by the first category of people to the last group. Such stages are portrayed in the curve below:

Figure 1.1: Portrays a Curve for the Stages of Innovation Adoption Life Cycle



Source: (Rogers, 2003, p. 63).

Figure 1.1 presents innovators as people who have a high education profile and are adventurous. They are the first individuals to accept innovations and redesign the innovations to eliminate any risks. Innovators cherish the constructs of innovations and enjoy working with available resources to create valuable technology. They also

experiment with the innovations while eliminating any mistakes from them (Moore & Benbasat, 1991, p. 195). Innovators have high inventive skills and fulfil the pre-conditions of being an innovator. These conditions include having financial means to cover any damages from unfruitful innovations; having the potential to implement complicated information; having the capacity to handle extreme levels of unpredictability and; being well versed with inventions (Rogers, 2003, p. 63). The next stage is early adopters who are well known in the communities and have a good educational background. They are also knowledgeable about innovations and do not inquire about anyone's opinion concerning innovations. This is because early adopters first experiment certain innovation before applying it on a large scale. Besides, they love an innovation even if it is applied by a few clients (Rogers, 2003, p. 66). Another phase is the early majority who have various friends. Early majority are needed by numerous ventures for the innovations to be a success. This is due to their desire for ideal innovations which turn out to be expensive. They comprise of vigilant clients who are hunting for solutions on how to acquire high quality innovations at good prices (Priyanka & Kumar, 2013, p. 55). Next is the late majority who are under a less socio-economic category and always doubt innovations. They only feel relaxed to accept them after such innovations dominate the market (Saljoughi, 2002, p. 84). Lastly are the laggards who depend on other people for major information about innovations. They hold the last position in the innovation adoption life cycle because they repel innovations. In otherwise, they accept an innovation if it is precise and meets their needs (Moore & Benbasat, 1991, p. 198).

These phases possess a psychographic profile in between each of them which simplifies the acceptance of innovations. A psychographic profile is a gap that allows early adopters to get well acquainted with innovations before the early majority. It involves learning about the individuals' values, perspectives and conducts. It encourages individuals within the phases to assist one another so that the gaps existing between them are closed up. If any gap is left between them, it leads to the failure of most ventures. The gap exists in case the early majority do not start from where early adopters stopped like when the early adopters decide not to buy the innovation. Through this, potential clients

are lost thus making the innovations to loose market (Saljoughi, 2002, p. 87). Therefore, the reasons why innovations are accepted must be considered to evaluate these phases and settle the gaps between them (Priyanka & Kumar, 2013, p. 58).

IDT portrays how relative advantage, complexity and compatibility are critical to an innovation's success. They ascertain the motives as to why people accept innovations faster (Knight, 2004, p. 20). Furthermore, IDT analyzes an innovation's constructs, communal structures and communication within a specific time interval (Legris, Ingham & Collerette, 2003, p. 192). Its major constructs that influence the diffusion of innovations are; innovation and personal features (Moore & Benbasat, 1991, p. 202).

The acceptance of mobile banking innovation is analysed through innovation adoption life cycle thereby discussing the concepts of innovations within various societies. Basing on this cycle, the diffusion of such innovations is achieved from steps such as; recognizing the innovation, forming ways of accepting it, testing it and lastly implementing or rejecting it (Dishaw & Strong, 1999, p. 12).

1.4.3.1. Constraints of Innovation Diffusion Theory (IDT)

The constraints of IDT are discussed below:

IDT does not portray how attitude influences resolutions for accepting innovations. Moreover, communal effects are not considered as a construct for the acceptance of innovations. IDT doesn't prove how innovation features can be evaluated. Besides, it lacks recognition and is condemned due to its limited demand (Oliveira & Martins, 2011, p. 117).

1.4.4. Fishbein Model

The Fishbein model was developed from psychological conduct. It got expanded by basing on the 1956 initial studies of Rosenberg. Initially, Fishbein started the model in 1967 and later him and Ajzen examined and clarified it in 1975 (Wang et al., 2003, p. 506). The Fishbein model was selected as a recommendation model from which the

technology acceptance model (TAM) was generated. It was created to strengthen and highlight the structure of TAM. It resembles the incentive theory of motivation which suggested that one conducts in a certain way if he will earn from it but will avoid conduct which has a bad outcome (Wijngaert & Bouman, 2009, p. 95). Fishbein model has three equations as expressed:

Equation one expresses that attitude-Aact and social influence SN_{act} affect behavioural intention-BI_{act}

$$B\sim BI_{act} = w_1A_{act} + w_2SN_{act}$$

B- Behavioural criteria

BI_{act} - Behavioural Intention

A_{act} - Attitude

SN_{act} - Subjective Norm

w_1, w_2 - Importance weights

Equation one reflects how acting in a specific conduct-B can inspire one to conduct in a certain way-BI_{act}. Moreover, attitude-A_{act} is the amount of influence on particular conduct (Amin, 2007, p. 18). BI is a person's likelihood to behave in a specific way. SN is what those close to an individual assume of certain conduct. Importance weights indicate the effects of a certain circumstance (Adams et al., 1992, p. 230).

Equation two was constructed from Victor Vroom's theory of expectancy value which suggests that conduct is based on its consequences. This theory is related to the Fishbein model which ascertains attitude to utilize inventions. It further emphasizes that attitude is part of beliefs concerning inventions (John, Krishna, & Yadawalli, 2013, p. 660). Equation two is stated as:

$$A_{act} = i=1, n\ bi\ ei$$

A - Attitude

bi - belief that conduct leads to repercussion i

ei - assessment of repercussion i

n - Number of superior views

Equation two indicates that attitude represents a task that has consequences. After these consequences are assessed, a person then decides to conduct in a specific manner. Besides,

belief is a person's possibility to conduct in a certain way which may lead to expected consequences-i (Amin, 2007, p. 23).

Equation three states that SN depends on the purpose of referent persons.

$$\mathbf{SN_{act} = Sj = 1, m\ nb\ mcj}$$

SN_{act} - Subjective Norm

nbj - Normative belief of referent j for a conduct

mcj - incentive to follow referent j

m - Major referents' number

Equation three is less concentrated on because it focuses on normative beliefs which have less research done about them. Normative beliefs are anticipations of a referent person about certain conduct. These beliefs are also known as constructs of attitude, (Ajzen, 1991, p. 180). Moreover, equation three regards referent persons' desires as a major consequence of conduct. However, it is vital to recognize the differences between the consequences of beliefs and belief itself. Beliefs are focused on when applying this equation (Venkatesh et al., 2012, p. 165). Furthermore, the Fishbein model indicates that normative beliefs affect BI and attitude (Timothy, 2015, p. 14).

A crucial feature of the Fishbein paradigm is that one can attain an accurate description of conduct (Ainin et al., 2007, p. 13). Conduct is forecasted by BI when the time interval between assessing BI and monitoring the conduct increases. This raises the chances of changing BI. Moreover, the degree of undertaking conduct depends on individual wants. The failure to carry out specific conduct is caused by a limited degree of BI which is affected by other opinions (Ajzen, 2002, p. 11). Besides, external aspects such as; individual features, conduct's structure and communication impact the constructs of the Fishbein model (Wang et al., 2003, p. 511). Fishbein model combines diverse theories about opinions, attitudes, BI and conduct (Adams et al., 1992, p. 229). It needs experimental results to prove it. It highlights a better relationship between innovation and conduct. It includes the psychological opinions for the acceptance of inventions (Ainin et al., 2007, p. 7).

Although the Fishbein model accurately measures the acceptance of inventions, it ignores other opinions hence forcing the researchers to rely on assumptions (John et al., 2013, p. 661).

1.4.5. Reasoned Action Theory (RAT)

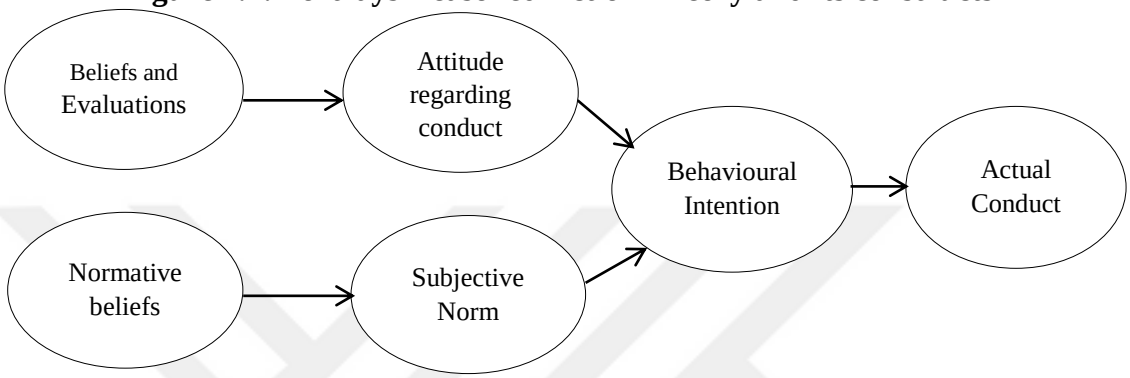
Ajzen and Fishbein created RAT in 1967 as the first theory that highlights how inventions could be accepted. RAT re-surfaced from the 1910-60s to highlight people's conduct and was formulated to generate a relationship between conduct and attitude. Attitude is a good or negative opinion about conduct therefore, it directly or indirectly influences conduct (Sang, 2016, p. 40). Nonetheless, attitude is an individual view on the positive or negative value of conduct (Wang et al., 2003, p. 514). RAT was a result of researches done in the 1950s about the models of psychology. These researches focused on formulating theories that foresee, describe and impact human conduct (Garg & Garg, 2013, p. 11).

RAT's constructs include attitude and subjective norm (SN). SN reveals that a person's conduct is based on the perspectives of one's communal members (John et al., 2013, p. 663). Moreover, SN refers to the positive or negative effects of conducting in a certain way. The influence of SN and attitude changes a person's objectives toward conduct (Heijden, 2003, p. 547).

Corresponding to RAT, behavioural intention (BI) is a person's choice to conduct in a certain way. It is also an individual's amount of will to perform a specific activity. BI forecasts when innovation will be utilized. It is formed by socializing with different individuals to get more ideas about certain conduct (Aypay et al., 2012, p. 27). BI is a result of opinions on conduct and personal views (Davis et al., 1989, p. 995). Nevertheless, attitude and personal opinions form the objectives for carrying out certain conduct (Venkatesh et al., 2003, p. 433). Attitude determines BI if individual dominance is strong. For instance, attitude is applied while buying an item for individual purpose. Nonetheless, SN predicts conduct if communal effects dominate a person's decisions to act in a specific manner. It is relied on when buying an item for someone else. Moreover, SN and social

influence are crucial at the beginning of applying an innovation because during that period, awareness about innovation is not yet maximized (Ajzen & Fishbein, 1980).
Here is the demonstration of RAT.

Figure 1.2: Portrays Reasoned Action Theory and its constructs



Source: (Garg & Garg, 2013, p. 50)

Figure 1.2 illustrates how beliefs impact conduct. These beliefs make up the attitude to accept technology. Such attitude creates BI to conduct in a specific way. Furthermore, BI is influenced by normative beliefs and SN (Garg & Garg, 2013, p. 51).

1.4.5.1. Constraints of Reasoned Action Theory (RAT)

RAT has a few demerits as expressed below:

RAT focuses on only estimations yet there is a possibility of analysing conduct. It is so wide and does not consider certain conducts (Davis et al., 1989, p. 997). RAT relies on only attitude and behaviour intention (BI) to forecast conduct basing on the activity, time interval and circumstances. It does not emphasize other constructs that influence BI for example; fright, intimidation and experience (Silva & Dias, 2007, p. 72). Although RAT renders a structure for understanding conduct, vital opinions must be ascertained before the acceptance of inventions. Furthermore, researches are needed to recognize the appropriate views of a community. RAT only analyses a sample's subsection which could have some mistakes (Sang, 2016, p. 42). It forecasts conduct in optional conditions and ignores other circumstances. Administering RAT is expensive as it requires assessing each construct. It supposes that after forming an objective, individuals are liberated to behave as pleased without facing any consequences yet there are consequences faced for every

activity. For example, if clients do not accept an invention, its manufacturers may become unsuccessful hence shutting down their venture (Ajzen, 1991, p. 182).

1.4.6. Personal Computer Utilization Model (PCUM)

In 1979, Triandis formed PCUM to clarify how conduct occurs and the components that enhance the usage of personal computers. According to PCUM, conduct has repercussions that strengthen the individuals' opinions (Venkatesh et al., 2003, p. 439). PCUM's set up forecasts the usage of personal computers (Thompson, Higgins, & Howell, 1991, p. 127).

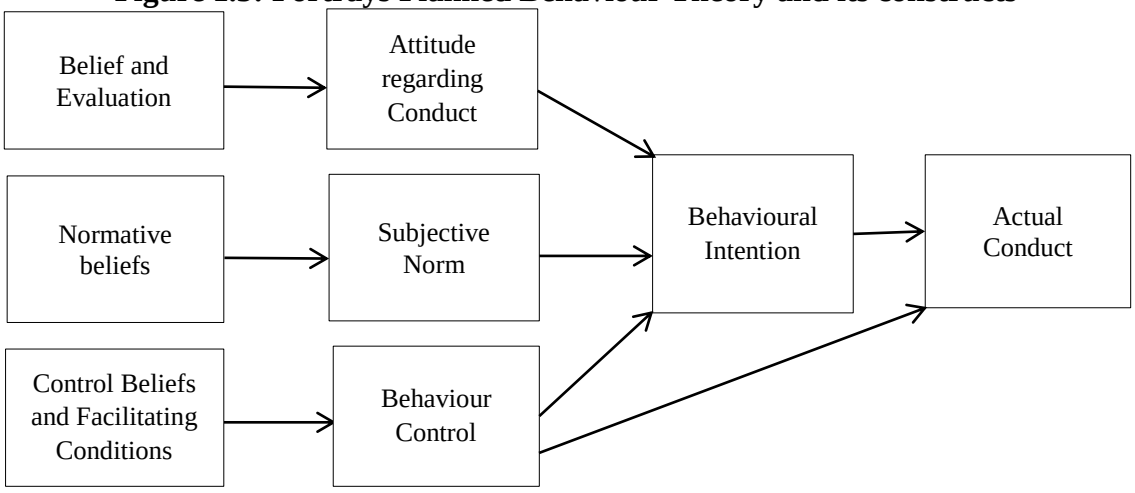
The components that influence the behavioural intention (BI) to use personal computers include routine, facilitating conditions (FC) and communal forces. Complexity and job fit are also included in PCUM to explain the repercussions of conduct. Job fit is a rate of trusting that innovation improves how work is done. It provides the expertise which is needed to utilize personal computers. In 1994, expertise influenced the utilization of personal computers with continuous experiments (Alaa & Mamoun, 2017, p. 11). On the contrary, though PCUM is essential, it ignores the complexity involved with computers and innovations. It lacks goals for utilizing inventions and ignores their predicted acceptance (Venkatesh et al., 2003, p. 445).

1.4.7. Planned Behaviour Theory (PBT)

Ajzen formulated PBT by expanding the reasoned action theory (RAT). PBT involves a construct of behavioural control (BC) which is a state of lacking full authority over certain circumstances. BC is the simplicity or hardship of carrying out specific conduct (Ajzen, 1991, p. 190). Ajzen formed PBT to evaluate compulsory circumstances and forecast the acceptance of inventions (Compeau & Higgins, 1995, p. 120). It has major constructs such as; subjective norm (SN), attitude and BC (Green, 2005, p. 5). PBT emphasizes that an individual lacks full authority to act as pleased. It proposes that BC impacts BI, attitude and communal forces (John et al., 2013, p. 667). PBT assumes that people make logical resolutions. PBT and expectancy value theory evaluate BC. PBT

describes the situations where people have total restraint on conduct through BC. It uses components such as; attitude, SN, BC, BI and actual conduct to ascertain the acceptance of inventions. Attitude and SN affect BI to behave in a certain way (Ajzen, 1991, p. 192). Attitude is an extent at which individuals assess suitable conduct. It involves analysing the repercussions and merits of conduct. Meanwhile, SN is where a person considers community forces before carrying out specific conduct (Song & Jaeki, 2005, p. 1221). BI is one's opinion of carrying out certain conduct. It is a deliberate effort individuals put in the simplicity or complexity of carrying out conduct. This relates to applying BC to enhance or limit a person's conduct (Ajzen, 2002, p. 15). BC asserts that conduct could be applied as a substitute. It works with control beliefs to simplify or complicate conduct. BC relates to how complicated it is to carry out conduct hence referring to complexity. Complexity is an extent to which inventions are hard to utilize. Therefore, PBT emphasizes the relationship between conduct and BC (Green, 2005, p. 10). PBT is demonstrated below:

Figure 1.3: Portrays Planned Behaviour Theory and its constructs



Source: (Song & Jaeki, 2005 p. 1224)

Figure 1.3 illustrates PBT and how its constructs influence conduct. In addition to the effects of RAT's constructs on conduct, facilitating conditions and BC are included as determinants of BI and actual conduct (Song & Jaeki, 2005, p. 1224).

1.4.7.1. Constraints of Planned Behaviour Theory (PBT)

The constraints of PBT are discussed below:

PBT proposes that conduct is carried out with behavioural control (BC) which is not true (Silva & Dias, 2007, p. 76). It neither portrays the techniques for carrying out conduct nor how these techniques correlate with PBT. PBT eliminates other constructs that influence behavioural intention (BI). For example, environmental and financial constructs are ignored (Truong, 2009, p. 182). PBT assumes a relationship exists between BI and conduct without proving it. Its administration is inconvenienced by complications of estimating BC. PBT emphasizes that BC is an essential component yet some proof exposes other constructs. It eliminates RAT's power of liberty to conduct as one wishes (Song & Jaeki, 2005, p. 1227).

1.4.8. Technology Acceptance Model (TAM)

1.4.8.1. History of TAM

In 1986, Fred Davis and Richard Bagozzi designed TAM by expanding reasoned action theory (RAT) (Priyanka & Kumar, 2013, p. 61). TAM's objective was to indicate the constructs responsible for the acceptance of inventions. It ignored attitude and subjective norm (SN) and replaced them with perceived usefulness (PU) and perceived ease of use (PEoU). TAM was originated from IT when companies started to initiate data techniques. However, RAT and Planned Behavioural Theory (PBT) emerged from psychology (Heijden, 2003, p. 543). TAM's formation involved some steps for example; the adoption step which necessitates experimenting and accepting inventions on a large scale; the validation step which estimates the acceptance of inventions then; the extension step which involves increasing the utilization of innovations in all operations (Alaa & Mamoun, 2017, p. 13).

TAM renders techniques for assessing the effects of external constructs on opinions, attitude and behavioural intention (BI). External constructs are constructs of quality outside a person's environment. They are computer experimentation and other conditions for implementing innovations (Durodolu, 2016, p. 13).

1.4.8.2. Concept of Technology Acceptance Model (TAM)

TAM evaluates the acceptance of innovations which gets complicated with the advancement of inventions (Marangunic & Granic, 2015, p. 82). The acceptance of inventions happens when behavioural intention (BI) is boosted (Aggorowati, Suhartono, & Gautama, 2012, p. 13). BI is amongst the factors that predict incentives for conduct hence affecting the utilization of inventions (Teo, 2013, p. 81). It is ascertained by attitude, subjective norm (SN) and behavioural control (BC) (Aypay, Çelik, Aypay, & Sever, 2012, p. 17). BI is also influenced by constructs for instance; performance expectancy, effort expectancy, communal influences and facilitating conditions (FC) (Thakur, 2013, p. 13). FC means rendering structures that simplify the utilization of inventions. For instance; enabling the return of items bought from online sites without a fee and availing guidelines to computer users. Communal influences involve absorbing traditions or interpersonal relationships of a particular community (Thompson et al., 1991, p. 129).

TAM was experimented as an outstanding model which ascertains the acceptance of inventions. For instance; it was crucial in a survey on attributes for accepting grade eleven training media (Bagozzi, 2007, p. 246). Further assessment indicated that TAM's components of PEoU and PU were related to the implementation of inventions (Teo, 2013, p. 82). PU is the implementation of innovations to boost work. It is related to performance expectancy. On the other hand, PEoU is connected to effort expectancy and proves that inventions make it simple to attain high quality. PEoU affects PU yet these two components could be self-sufficient (Heijden, 2003, p. 545).

1.4.8.3. Perceived Usefulness (PU)

PU is an extent to which individuals trust that applying inventions will increase work operations and secure efficiency. Efficiency is enhanced through incentives, extra payments and awards. Additionally, PU is the application of innovations to improve work and advance the levels of expertise (Davis, 1989, p. 333). Besides, PU entices organizations to apply innovations and meet their fundamental goals (Moore & Benbasat, 1991, p. 206). PU's absence produces negative results even though innovations are

administered (Bongo-Keun & Tom, 2013, p. 19). PU is influenced by; belief, job relevance, output quality, result demonstrability and subjective norm (SN). SN is controlled by experience and voluntariness of use. Experience is an individual's amount of expertise in utilizing inventions (Nafsaniath, 2015, p. 39). Belief is a notion that specific conduct brings about results. Whereas, job relevance explains that inventions and duties are necessary to achieve organizational goals. It is the amount of realizing that innovation is appropriate for work. Output quality asserts that inventions lead to successful performance. It is the extent of trusting that innovations can enhance work perfectly (Davis et al., 1989, p. 998). Lastly, result demonstrability is the outcome of using inventions hence displaying their relevance. However, inadequate results create uncertainties about the implementation of inventions (Mohr, 2001, p. 16). Moreover, result demonstrability is when the utilization of inventions produces a tangible outcome (Moore & Benbasat, 1991, p. 200).

1.4.8.4. Perceived Ease of Use (PEoU)

PEoU implies that applying inventions needs minimum energy to attain the desired objectives. It considers the strength needed to implement inventions (Bongo-Keun & Tom, 2013, p. 22). It emphasizes that implementing innovations relieves one from physical and mental effort. PEoU is the belief that utilizing innovations renders simplicity to users. It implies that a person is liberated from complex workloads (Davis, 1989, p. 334). PEoU asserts that implementing innovation is easy without trouble and it measures achievement in the tasks done. PEoU is influenced by components related to IT, work and expertise. Respectively, individuals accept an invention they assume is simple to operate (Aggorowati et al., 2012, p. 17).

PEoU is impacted by external components that are categorized into; administrational, technological and individual attributes (Aypay et al., 2012, p. 25). Besides, other components include conduct, administrators and phobia for innovation (Mohr, 2001, p. 18). Others are; internet self-efficacy, self-assessment evaluations, data anxiety and computer self efficacy. Internet self-efficacy is a principle framework which simplifies the acceptance of innovations. Self-assessment evaluations impact the

advancement of innovations. Data anxiety refers to accessing a large quantity of data. It is a huge obstacle because it leads to data surplus (Udeh, 2008, p. 157). Data surplus is a state where the quantity of data input surpasses the ability to handle it thus leading to bad resolutions. The data era is leading people to seek much data from various data sources. Due to data surplus, staying loyal to the implementation of certain inventions is difficult. (Sang, 2016, p. 46).

Computer self-efficacy entails that undertaking the right activities to satisfy certain needs. This is in circumstances of generating extreme utility from innovations. Computer self-efficacy requires attaining expertise and reliance on inventions. The implementation of these inventions is assisted by network facilities (Kurbanoglu et al., 2006, p. 734). A correlation between computer self-efficacy and the acceptance of innovation yields value. Computer self-efficiency results from improvements in invention. It is necessary to obtain awareness, data and education thereby generating PEoU (Nafsaniath, 2015, p. 32). PEoU and PU forecast conduct through self-efficacy and results perception. Self efficacy involves recognizing skilful activities that are necessary for handling certain circumstances. Whereas, results perception is a level at which conduct is related to its results (Sang, 2016, p. 51).

TAM proposes that other external components influence conduct for example; aspects, communal components and factors connected to work. It handles perceptions since it relies on ideas and not the actual implementation (Davis et al., 1989, p. 999).

1.4.8.5. Technology Acceptance Model (TAM) 2

TAM 2 was expanded from TAM 1 to focus on the causes of perceived usefulness (PU), perceived ease of use (PEoU), cognitive influential components and communal forces (Venkatesh & Davis, 2000, p. 202). Communal forces include subjective norm (SN), voluntariness of use and image while cognitive influential components include job relevance, output quality and result demonstrability (Kurbanoglu et al., 2006, p. 737). TAM 2 intensified by incorporating PU and PEoU. For instance, the advancement of inventions is expressed by practical intelligence (Alaa & Mamoun, 2017, p. 17). TAM

ascertains the barriers to the implementation of innovation by considering how innovation is seen, understood and applied effortlessly. Therefore, TAM 1 and TAM 2 are crucial and should be modified to accommodate communal and individual changes (Legris et al., 2003, p. 194).

1.4.8.6. Technology Acceptance Model (TAM) 3

Venkatesh and Bala formed TAM 3 by combining TAM 2 with perceived ease of use (PEoU). TAM 3 deals with the correlations between computer anxiety and PEoU; PEoU and PU; lastly PEoU and behavioural intention (BI) (Venkatesh et al., 2003, p. 452). It utilizes PU and PEoU to influence BI. Furthermore, TAM 3 highlights the application procedures and components for the acceptance of inventions like, mobile banking applications. Once TAM is joined with a technical method, the new monetary inventions can be accepted (Venkatesh & Davis, 2000, p. 203).

1.4.8.7. Constraints of Technology Acceptance Model (TAM)

TAM has a few constraints as listed below:

TAM contains RAT's restrictions that mark it inappropriate for ascertaining the acceptance of inventions since it was formulated from reasoned action theory (RAT) (Ajzen & Fishbein, 1980). It focuses on perceived usefulness (PU) and perceived ease of use (PEoU) only thereby ignoring other components. Implementing TAM outside organizations is complicated since PU and PEoU cannot demonstrate how an invention satisfies the desired duties. TAM assumes that behavioural intention is optional (Dishaw & Strong, 1999, p. 18). It does not demonstrate how people's expectations impact conduct. The correlations between TAM's constructs are different though statistically essential (Thakur, 2013, p. 27). TAM neglects cultural aspects thereby demonstrating how it cannot foretell conduct from certain traditions (Legris et al., 2003, p. 197). Its implementation and accuracy are not reliable. TAM is ignored since the unified theory of acceptance and use of technology is mostly applied (Venkatesh et al., 2003, p. 457). It is mostly implemented by scholars who need an emphasis on the background of the software.

Though TAM evaluates changes in self-reports, it is not exact since there is trouble with the interviewee's opinions and perspectives. Self-reports involve personal views that are not sufficient as they influence communal and financial components. Besides, TAM needs to accommodate communal and individual components (Durodolu, 2016, p. 21). It excludes components such as; enjoyment and institutional changes which also impact the acceptance of innovations (Marangunic & Granic, 2015, p. 85). It researches 40 % of the acceptance of inventions and ignores the remaining percentage (Bagozzi, 2007, p. 249). TAM is considered insufficient, lacks functional worth and has low forecasting ability hence leading to its expansion (Priyanka & Kumar, 2013, p. 67). It does not comply with the changing inventions (Moore & Benbasat, 1991, p. 209). TAM is modelled for company settings not daily life events hence making it inappropriate to research the acceptance of mobile inventions. It does not specify the innovations responsible for the acceptance process (Taylor & Todd, 1995, p. 566). TAM does not express the effects and conditions for the acceptance of innovations (Nafsaniath, 2015, p. 40).

1.4.8.8. Merits of Technology Acceptance Model (TAM)

Despite its shortcomings, TAM renders the following merits:

TAM is expanded as researchers eliminated unnecessary content and applied some context from different behavioural theories. It benefits numerous researchers who mention how it boosts work efficiency (Durodolu, 2016, p. 18). TAM is applied in various researches on the acceptance of microcomputers and world-wide-web software. It portrays a link between BI and perceived usefulness of applying an invention (Venkatesh et al., 2003, p. 465). TAM increases the application of IT in everyday life. It exposes certain community shortages like less implementation of inventions amongst the elderly, uneducated and those with lower profit margins (Bagozzi, 2007, p. 250). Therefore, TAM improves the quality of earnings and literacy levels (Heijden, 2003, p. 548).

1.4.9. Combined Technology Acceptance Model and Planned Behaviour Theory (C-TAM & PBT)

Taylor and Todd initiated combined TAM and PBT in 1995. It relies on PBT from communal psychology and TAM from IT to make it work successfully (Silva & Dias, 2007, p. 84). C-TAM & PBT proposes that behavioural intention (BI) ascertains conduct whereas attitude ascertains BI (Nafsaniath, 2015, p. 40). Attitude, subjective norm (SN) and behavioural control (BC) affect conduct. Also, PEoU influences PU while these two influence attitude (Ajzen & Fishbein, 1980).

1.4.9.1. Constraints of Combined Technology Acceptance Model and Planned Behaviour Theory (C-TAM&PBT)

The shortcomings of C-TAM&PBT are listed below:

C-TAM&PBT does not include the constructs for ascertaining human conduct. It excludes other components, for instance, intimidation and fear for accepting inventions (Green, 2005, p. 13).

1.4.10. Decomposed Planned Behaviour Theory (DPBT)

DPBT was expanded from planned behaviour theory (PBT) and innovation diffusion theory (IDT). It comprises of constructs such as; relative advantage, compatibility, complexity, perceived ease of use (PEoU) and perceived usefulness (PU). PEoU and complexity contradict each other whereas; PU and relative advantage are related.

DPBT divides attitude, subjective norm (SN), BC and facilitating conditions (FC) into numerous dimensions related to the acceptance of inventions. FC is the provision of expertness and facilities for carrying out specific conduct (Ajzen, 2002, p. 18). It restricts SN to employee-employer influences while attitude does not change (Song & Jaeki, 2005, p. 1229). DPBT predicts conduct and it is compared with TAM to ensure its efficiency (Taylor & Todd, 1995, p. 569).

1.4.10.1. Constraints of Decomposed Planned Behaviour Theory (DPBT)

Though DPBT is competitive, its restrictions are discussed as follows:

DPBT relies on various components without revealing which ones impact conduct. It believes that an individual will prepare for conduct before undertaking it (Silva & Dias, 2007, p. 88).

1.4.11. Unified Theory of Acceptance and Use of Technology 1 (UTAUT 1)

Venkatesh et al formulated UTAUT 1 from the technology acceptance model (TAM) to highlight the acceptance of inventions. TAM and UTAUT are suitable for conducting experiments on personal views other than company opinions. Implementing TAM and UTAUT at a personal standard requires appropriate structures for the acceptance of innovation. This is because personal standard comprises of differences such as; age and experience that limit the effects of behavioural intention **(**BI) (Bagozzi, 2007, p. 252).

UTAUT is applied in the evaluation of information related to the utilization of inventions. It has diverse components such as; performance expectancy, effort expectancy, social influence, facilitating conditions (FC) and voluntariness of use. Performance expectancy is an assumption that implementing invention shall enhance work efficiency. It is among vital constructs that affect behavioural intention (BI) (Xin Luo et al., 2010, p. 228). Effort expectancy focuses on the time interval and the amount of energy taken to apply an invention. Social influence is when one assesses what those around him suppose of an invention before implementing it. FC is an assumption that facilities for implementing innovations are put in place to support the users (Wang et al., 2003, p. 516).

1.4.11.1. Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2)

Venkatesh et al formed UTAUT 2 by eliminating the component of voluntariness of use from UTAUT 1 and added in; hedonic motivation, price value and habit (Venkatesh et al., 2012, p. 168). Hedonic motivation is when a person gets satisfied by implementing

a specific invention. Price value involves all expenses related to applying an invention. Habit is a level at which individuals conduct themselves in a specific way (Thakur, 2013, p. 16).

1.5. Customer Loyalty

Customer loyalty is incorporated in the study because it impacts the acceptance of mobile banking technology. It ascertains the utilization of most monetary services and it can affect them negatively if not taken seriously. Customer loyalty assists in analysing client perspectives and conducts thereby exposing the areas that need adjustments. It also supports the identification of potential clients and exposes the new market segments (Fredrick & Isak, 2018, p. 35). Loyalty is fundamental since it is a direct path to gigantic earnings. It renders institutions with the guarantee to continue operating and overcome the mounting competitive threats in most similar industries. Therefore, it is necessary to examine the purchasing and consumption patterns of clients and implement the right mechanisms to maintain them (Sulieman & Ahlam, 2017: 61).

The existence of many methods of communication has brought more focus on how to reach larger markets and retain the clients so that organizations continue to operate. This is because retained clients are not seeking for cheaper prices but are willing to buy at high prices to satisfy their needs hence enhancing profitability and stability of the institutions. Therefore, customer loyalty requires special attention to comprehend the role it plays in the adoption of monetary services to reach the expected client segments.

1.5.1. Definitions of Customer Loyalty

Customer loyalty is the client's unwillingness to divert from purchasing and utilizing certain goods or services. It is the value which clients put in organisations that satisfy their needs through the goods and services offered. Client loyalty is where clients are at the peak of satisfaction with certain goods and services and suggest them friends and relatives without caring about other competitors (Malikeh Beheshtifar et al., 2015: 196). In terms of banking, customer loyalty is known as a client's choice to dedicate

oneself to the services of a specific monetary institution for a given time interval (Fredrick & Isak, 2018, p. 30). Customer loyalty is where clients acquire their desired items or services from a specific firm continuously irrespective of marketing efforts to divert them or change their conduct. It is where clients carry out transactions with a specific firm persistently while suggesting it to their social groups since clients believe they are serviced better compared to the competitors. Client loyalty is initiated by attaining satisfaction from the suppliers hence confirming client-firm correlations (Douglas & Paul, 2017, p. 56).

1.5.2. The Concept of Customer Loyalty

From the 1980s, studies have proved that firms which concentrate on enhancing customer loyalty yield a lot more than those that ignore it. High levels of loyalty are attained by comprehending the relevance of retaining clients while reinforcing close relations with clients. This multiplies the number of clients since they feel special that their needs are being taken in consideration. Therefore, in 1990 many firms started to focus on developing techniques to advance client loyalty. These techniques involved increasing purchases and re-purchases of goods and services to build loyalty. However, this was criticised as re-purchases could be due to inadequate product choices that clients faced (Malikeh Beheshtifar et al., 2015: 196).

Loyalty has two approaches; behavioural and attitudinal approaches that help to assess its strength. Behavioural approach involves clients' will to re-buy goods or services with a purpose of preserving correlations with the suppliers. Nevertheless, some experts suggest that re-purchases do not mean that clients are loyal. Clients can re-buy goods or services as they wait for competitor firms to set the desired prices and this is known as false loyalty. False loyalty derives from discouragement of competition by governments or due to high expenses of diverting to other alternative firms. Besides behavioural loyalty is associated with loyalty of convenience where clients insist on re-buying goods or services due to limited choices available. Such loyalty is not reliable because clients can divert to other firms any time an opportunity arises (Jansson, E., & Letmark, M., 2005).

Attitudinal approach is where clients have positive attitude to specific goods and services and are completely dependent on the suppliers. It has features for instance; the word of mouth and encouraging friends and relatives to utilize the same goods or services. This loyalty is impacted by various internal and external aspects and such impact differs depending on the kind of firm. Identifying these aspects with their effects enables directors to decide on the right and favourable choices. Besides, in case firms lack enough resources, then management should formulate steps to retain clients, assess the responsible aspects while emphasizing their relevance and endeavour to direct the available resources properly. Attitudinal loyalty originates from commitment which involves being strongly dedicated to a certain brand or firm. It includes high levels of trust in the firms and small market segments (Khorshidi and Kardgar, 2009).

Attitudinal loyalty comprises of; cognitive loyalty where clients' beliefs determine their conducts; emotional loyalty which is connected to clients' feelings, trust and dedication; action loyalty where clients are willing to buy the goods and services in future and; loyalty in action which is associated with being ready to buy the desired goods and services (Malikeh Beheshtifar et al., 2015: 196).

Loyalty is categorized into; affective loyalty and conative loyalty. Affective loyalty is an extent to which clients love to utilize the services of specific monetary institutions. Whereas, conative loyalty signifies that clients will utilize the services of a certain monetary organization in the future (Edvardsson, Johnson, Gustafsson, & Strandvik, 2000, p. 116). Additionally, service loyalty handles client-firm relations while, banking loyalty is where client have positive attitudes towards a monetary institution and recommends it to families and friends (Eriksson & Schuster, 2009, 17).

Loyal clients rebuy the same items regularly, recommend them to others and have good perspectives towards their suppliers. Besides, clients are classified into; captive clients, contented clients and committed clients. Captive clients portray loyalty by focusing on a specific brand and rebuy it due to the less categories availed. This is related to the loyalty of convenience seekers who choose brands with easier access and variety. Contented clients persist on rebuying certain items of a brand but not the brand's new

items. However, committed clients show a high amount of loyalty by rebuying the same brands for a long time and suggesting them to others (Nguthuku, 2018, p. 17).

For monetary institutions to enhance client loyalty, they render many services like mobile banking. Client loyalty is assessed by implementing the right models and theories to successfully evaluate the clients' conduct towards mobile banking inventions. Also, monetary institutions lay out loyalty plans that rely on sharing equal value with their customer-base. Besides, they focus on client-firm correlation plans for their inventions to be fully accepted by customers instead of concentrating on item-focused plans (Ainin et al., 2007, p. 12).

CHAPTER TWO
MOBILE BANKING ACTIVITIES

This chapter discusses the; definitions of mobile banking, its characteristics, its categories, its benefits and problems, mobile banking activities worldwide, the procedure for utilizing mobile banking and the aspects that inspire the acceptance of mobile banking technology.

2.1. Definitions of Mobile Banking

This sub-section details numerous definitions of mobile banking:

Banking is where monetary institutions gather clients' investments and direct them appropriately to create resources. Banking procedures have been modified over the years to accommodate modern techniques like mobile banking applications. Mobile banking is a fundamental shift from the brick and mortar procedures. It involves availing monetary services to clients via their mobile gadgets (Mohr, 2001, p. 21). Mobile banking refers to utilizing mobile gadgets to execute transactions (Imetur, 2012, p. 7). It renders services such as; loans, credit purchases or any desired answers to queries over mobile devices (Marangunic & Granic, 2015, p. 87). Through these services, mobile banking activities (MBA) are successfully carried out on mobile gadgets (Porteous, 2006, p. 7).

2.1.1. Introduction of Mobile Banking

This sub-section highlights the introduction of Mobile Banking:

Previously, clients could move to monetary institutions and form long queues to wait for services which inspired the initiation of mobile banking technology (Smith, 2012, p. 87). Mobile banking makes monetary services mobile and supports the growth of telecommunication industries. Mobile banking advances at high-speed and it changes the structure of purchases and sales. It is a method which serves clients from far distances and tracks their account operations. Mobile banking invention is just being adopted by people in low developed countries though it was present since early 2000 (Kurbanoglu et al.,

2006, p. 738). Though mobile banking allows advancement, it has several hindrances including; operation difficulty, data insecurity and high competitiveness (Marangunic & Granic, 2015, p. 91).

The advancement of mobile banking inventions is transforming the methods of connecting with monetary institutions. Such inventions are intensifying due to high demand and competition for modern trading structures (Awadhi, 2013, p. 58).
Furthermore, through mobile banking, the internet has set purchases on an electronic path where cash is no longer needed. For example, in 2015 nine hundred million individuals were anticipated to transact one trillion dollars via mobile payments (Amin, 2007, p. 34).

2.1.2. History of Mobile Banking Technology

The details on the history of mobile banking are presented as follows:

Mobile banking technology was launched in the late 1990s by Pay Box firm when the internet and the utilization of computers were progressing. It got used in many operations since the launch of post offices and the internet. Post offices and the internet assisted banking operations and maintained clients due to the high competition. In 1999, short messaging service (SMS), a channel of mobile banking was developed by the Bank of United States. Unfortunately, mobile devices back then had incompetent software and hardware. This forced monetary institutions to use letters to connect with clients thus cutting down the high internet costs (Shaikh & Karjaluoto, 2015, p. 131). In 2004, internet banking intensified as it was mostly utilized by merchants. Internet banking required clients to have computers and internet to access monetary services and transact easily however, these were very costly. These costs were minimized by applying the wireless application protocol (WAP) system which was initially launched in 1999. At the same time, debit or credit cards became broadly applied in payments (Green, 2005, p. 16).

Later, Japan and South Korea re-initiated mobile banking in 2004. In 2006, Wachovia Bank introduced it in the USA. In 2007, Bank of America provided mobile payment services which enhanced mobile banking activities. These services were later

initiated in the Nordic states by 2009. Mobile banking was started by Garanti Bank in Turkey in 2007 whereas, Iş Bank granted it in 2008 and Fortis Bank opened its services via WAP (Simge, 2008, p. 21). Its establishment intensified in 2007 when Steve Jobs launched iPhones that exposed mobile banking technology to the world at large (Kurbanoglu et al., 2006, p. 740). Mobile banking modified how the internet was accessed by ensuring that the manufacturers of mobile devices add favourable features that supported online transactions (Monzur, 2017, p. 15).

2.1.3. Evolution of Mobile Banking

Mobile banking has advanced over the years as detailed below:

The utilization of mobile banking commenced when the USA launched credit cards in 1950 and USA and Sweden initiated ATMs in 1967. Credit cards helped to reduce the amount of cash that clients carried around hence enhancing their safety. They directed the management of little cash from monetary institutions. Moreover, in 1989 the UK initiated telephone banking for clients to fulfil their financial desires even from remote locations. Telephone banking eliminated the need to visit monetary institutions for small inquiries or requests (Fredrick & Isak, 2018, p. 35).

In 1996, the Nordics launched online banking which was the initial service to process monetary requests via personal computers. Later, the general packet radio service (GPRS) was initiated from 1999-2000 as a telecommunication system that renders rapid internet for mobile devices to support mobile banking operations (Legris et al., 2003, p. 199). These operations were supported with the assistance of mobile money which was launched in 2000. Additionally, 3rd generation mobile devices were restored in late 2001 by Japan to back up such operations (Kurbanoglu et al., 2006, p. 741). Then, in 2006, visa and master cards were launched and connected to the banking network. This made payments from different locations faster without any inconveniences. Moreover, through radio frequency identification chips, mobile payments were done successfully (Monzur, 2017, p. 23). Later in 2009, mobile banking was re-initiated by Nordics hence permitting clients to make timely monetary requests and inquiries (Thakur, 2013, p. 16).

2.1.4. Concept of Mobile Banking

The concept of mobile banking is described as follows:

Most financial institutions apply mobile banking to enlarge their operations and meet client expectations. Mobile banking is new in Africa though it is already applied in other continents. It is initiated to render techniques for administering funds without exchanging hard cash. Mobile banking eases payments and transmissions of funds thus extending monetary services to remote societies. However, such mobile banking activities (MBA) are not fully carried out since half the world holds no bank accounts (Mohamed & Tarek, 2013, p. 36). Mobile banking favours payments in instalments which encourages people to rely on it broadly (Knight, 2004, p. 25). It contributes greatly to the progress of governments, individuals and organizations. Its utilization has escalated due to the growing dependence on mobile gadgets (Green, 2005, p. 19). The levels of carrying out MBA are more in Europe than Asia, Australia and New Zealand. The rate of MBA in Sub Saharan Africa is growing in contrast to other parts of Africa (Kurbanoglu et al., 2006, p. 742).

2.2. Mobile Banking Activities (MBA) Worldwide

Mobile Banking Activities are undertaken universally as highlighted:

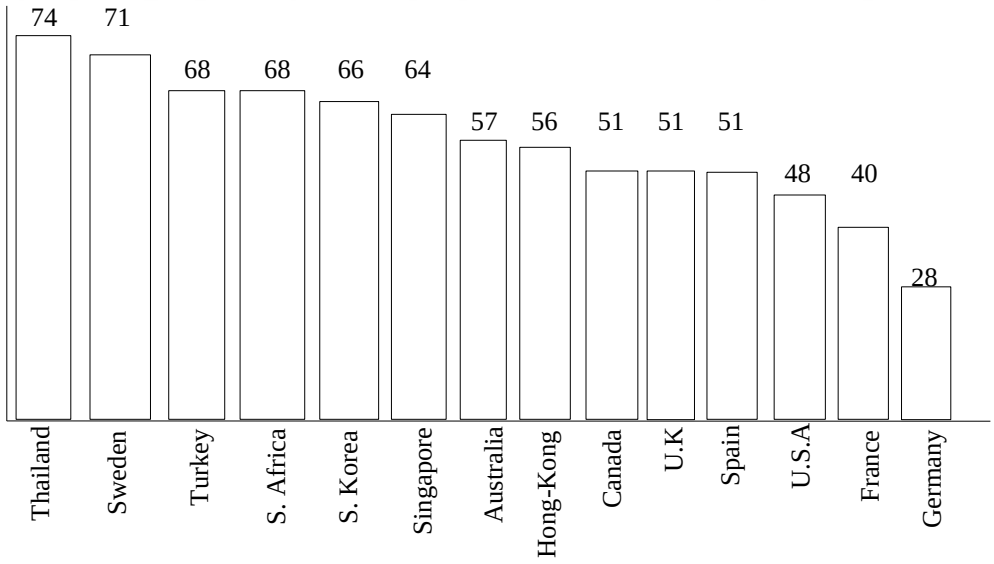
MBA were carried out in Japan and Europe for quite some time yet they weren't fully undertaken in the USA due to less interest of its citizens. Some Americans were not willing to carry out MBA as they were not motivated to download the application on their phones. However, MBA were undertaken in Hong Kong and South Korea even if clients faced higher charges (Mohamed & Tarek, 2013, p. 38). Mobile banking services were initiated earlier, but neither were clients ready nor were such services of good quality. This led to the closure of these services in most monetary institutions like Wells Fargo bank shut down its mobile banking services when few customers registered for them (Porteous, 2006, p. 9). Mobile banking technology was encouraged by most monetary institutions, for example, Bank of America started in 2007; Wachovia in 2006 whereas Citibank planned on initiating it. MBA are undertaken through short messaging service

(SMS) and the internet. SMS banking stores information on phones which could be risky as it might end up in the wrong hands (Mohamed & Tarek, 2013, p. 39). MBA are usually undertaken by youths with good salary jobs as they are interested in investing and transacting electronically. However, mobile banking is not fully trusted as some people fear their security. Nevertheless, it is secure as it deals with downloaded bank applications that save data on the app's memory (Ainin et al., 2007, p. 11).

In 2006, a million clients of the Bank of America and Chase Bank carried out MBA thereby enlarging their market coverage. At present, 4% of its total clients are active users which is a good market size. Mobile banking utilization is increasing due to the strong advertisement programs which create awareness among clients (Breune, 2007, p. 138). This illustration shows the rate of utilizing mobile banking services in these selected countries per 2018.

Figure 2.1: An illustration portraying the rate of utilizing Mobile Banking

Percentage of internet users who can access Mobile Banking Services (%)



Source: (Global Web Index|Q2&Q3, 2018). Figures show outcome of internet users aged 16-64

Figure 2.1 indicates the highest percentage of mobile banking in Thailand and the least in Germany. Mobile banking in Canada is slightly higher in contrast to the USA whereas Spain and the United Kingdom have equal levels. Asia has higher rates of mobile banking entry yet America and Europe have more utilization rates. Such rates have

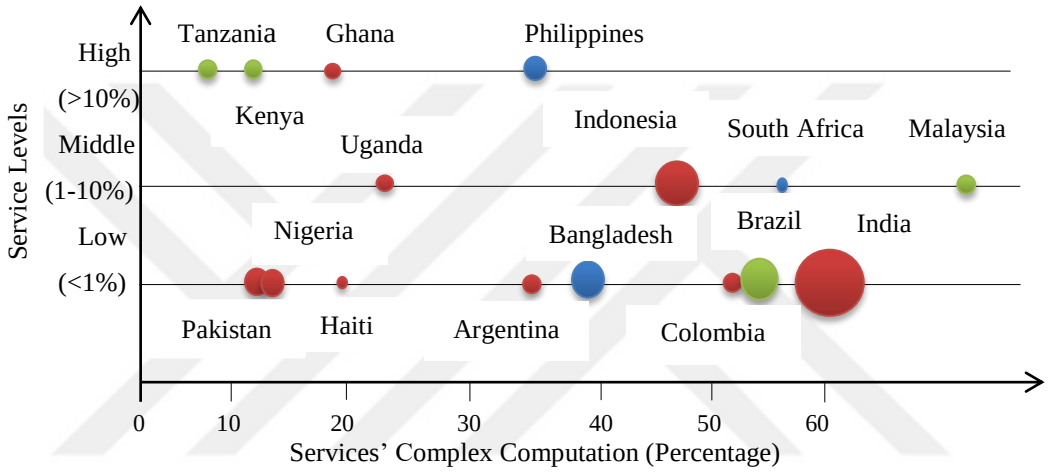
intensified in states with high dependence on inventions. Besides, the whole globe utilizes mobile devices that rely on the subscriber identification modules (SIM) to boost mobile banking (Sunil & Rachna, 2013, p. 3).

Mobile banking inventions in less developed countries (LDCs) are not extensively known. LDCs comprise of minimal dominance of such inventions in contrast to the utilization of mobile devices. This is because out of seven billion people, five billion own mobile devices yet two billion are bank account holders. For instance, Bangladesh's 150 million people have 57% mobile gadgets yet just 13% of these people own accounts (Sunil & Rachna, 2013, p. 4). Another example is the Bank of Industrial Credit and Investment Corporation of India and Union Bank of India that launched mobile banking in India. India's population of above one billion has nine hundred million people with mobile devices yet around two hundred million people are bank account holders (Wang et al., 2003, p. 518). Furthermore, the Reserved Bank of India extended benefits to firms by loosening its standards thereby backing up monetary agents and MBA. These agents are exposed to competition hence making fewer sales and returns. They are individual agents or non-government organisations (NGOs) whose expenses can be cut down if mobile banking is applied (Sunil & Kerry, 2012, p. 12).

Safari com is a telecommunication firm in Kenya that multiplied its agents to catch up with the escalating mobile money transactions. It had fifteen million customers with over forty-five thousand agents in 2012. Presently, it manages one billion transactions monthly which enhance Kenya's gross domestic product by 31% (John et al., 2013, p. 672). Moreover in 2007, Vodafone another telecommunication firm initiated M-Pesa (mobile money) to send funds back and forth between Kenya and Tanzania. Recently M-Pesa and the Commercial Bank of Africa launched M-Shwari, a banking service platform which permits clients to own accounts, save funds and acquire loans via mobile devices. Other telecommunication firms that initiated mobile money operations are; Mobile Tele-Communication Network (MTN) in Uganda, Vodacom in Tanzania, First National Bank (FNB) in South Africa, G-Cash and Smart Money in the Philippines (Akturan Ulun, 2012, p. 1). All these countries consider such operations as a way of

involving themselves in their societies. However, firms focus on mobile monetary services to expand and reach new clients faster. These services emphasize regular savings via mobile gadgets as SIM cards encourage the transfer of funds from one person to another or from one individual to a business (Timothy, 2015, p. 17). Mobile monetary services in these less developed countries are demonstrated here:

Figure 2.2: Demonstrates the Acceptance of Mobile Monetary Services



Source: (Mobile Financial Services Development Report 2011, World Economic Forum, Geneva)
Note: Bubble's size indicates population and color indicates market maturity in years.
< 2 years 2-4 years > 4 years

Figure 2.2 represents the period and rate at which mobile monetary services were utilized in LDCs. It further shows that LDCs for instance; Kenya, Tanzania, Ghana and the Philippines offer mobile monetary services that exceed 10% (Sunil & Rachna, 2013, p. 7). LDCs have less MBA though some such as; Kenya and the Philippines utilize mobile network operators (MNOs) to render numerous mobile banking services while others apply the brick and mortar style (Timothy, 2015, p. 20).

2.2.1. Mobile Banking Activities in Uganda

Mobile Banking Activities (MBA) commenced in Uganda as narrated below:

The Republic of Uganda is located in the East-Central Africa bordered by Kenya in the East, South Sudan in the North, Tanzania in the South and Democratic Republic of Congo in the West. Uganda is among countries in the Great Lakes region because it occupies the largest part of Lake Victoria which is one of the world's largest lakes. It is

considered as the Pearl of Africa by many explorers due to its beauty and its people enjoy an equatorial climate (J. Sonny et al, 2014). Uganda got its name from the Buganda Kingdom which comprises of most citizens. Its capital city is Kampala which is a province in the central region near southern Uganda and the north of Lake Victoria. In 1949, Kampala became a metropolis and in 1962 it was chosen as the country's capital city with a population size of over one million. Besides Uganda has a total population of 42.7 million and it uses the Uganda Shillings as its currency. Uganda's national flag consists of black, yellow and red bands with a crested crane in the middle (Mugenda & Mugenda, 2008, p. 1).

In 2004, Bankom Ltd a provider of electronic payment services in Uganda initiated the utilization of phones to make payments. Bankom Ltd has been authorized by the Bank of Uganda to manage electronic payments on behalf of the monetary institutions. However, Ugandans have recently started to undertake mobile banking activities (MBA) as the banking sectors in Uganda continues to grow (Knight, 2004, p. 28). Uganda views mobile banking as a new technique where; governing accounts, accessing personal data, making balance inquiries, conducting payments and electronic loan applications are all done over a mobile gadget. This is because out of forty two million people, ten million have mobile devices yet only five million have bank accounts (Dennis & Frances, 2010, p. 12). The government of Uganda has strengthened the utilization of mobile banking applications by rendering favourable conditions to financial organizations. These conditions include fair taxes, subsidies and effective regulations. The utilization of such applications has been boosted to decrease expenses and make funds more accessible and obtainable for low-income earners (Thompson et al., 1991, p. 132).

Besides, it is crucial to learn how individuals at the bottom of the economic pyramid accept inventions since this pyramid brings more focus on poverty-stricken societies. The pyramid is formulated of four rows to represent the world's population. The bottom row has 4 billion individuals who earn less than one thousand five hundred dollars annually. It comprises of untouched markets that monetary institutions should focus on and capitalize thereby raising one trillion individuals from poor living conditions (Ainin

et al., 2007, p. 9). As this row expands, large-scaled monetary institutions enjoy new market segments and maximum returns. This paves a way for progress within the communities thereby relieving people from extreme poverty, eliminating communal destructions, political instabilities and income inequality (Akturan Ulun, 2012, p. 2).

2.2.2. Financial Institutions Turn Mobile

Monetary institutions are devoting funds to utilize smart applications. This has made mobile banking activities (MBA) to be extensively carried out in contrast to online banking (Sunil & Kerry, 2012, p. 22). Mobile banking is identical to online banking as it attracts and retains clients at limited expenses (Dennis & Frances, 2010, p. 13). The banking system has changed due to competition and many smart applications. For instance; Google wallet, PayPal and Square are now cooperating with credit card institutions namely; MasterCard and Visa to enable faster electronic money transfers (Sunil & Rachna, 2013, p. 10).

2.2.3. Accessing Non-banking Clients

Accessing non-banking societies is difficult since opening up small offices in distant locations is costly for monetary institutions. Therefore, the presence of mobile gadgets and mobile network operators (MNOs) present less expensive alternatives to reach these clients as MNOs correlate with monetary institutions to benefit each other (Knight, 2004, p. 31). As MNOs charge internet fees, monetary institutions are able to access untouched markets cheaply by rendering mobile banking services. These services render much revenue as mobile wallet clients use the internet to access any desired services. Furthermore, MNOs require tutoring on the laws to follow so that they can share goals with monetary institutions (Thompson et al., 1991, p. 137). However, some MNOs deny clients the choice of sending funds to outside networks. Moreover, the existence of numerous MNOs and monetary institutions complicates their interaction with clients (Akturan Ulun, 2012, p. 4).

2.3. Characteristics of Mobile Banking

The features of mobile banking are detailed as follows:

Mobile banking permits clients to sign in and out of the mobile accounts for their safety since such a system recognizes the clients' entry before they access any account. It permits clients' access to their accounts at any time or place. It is speedy and inexpensive compared to other alternatives. It transfers electronic funds and records details of past transactions. It has qualities such as; suitability, timeliness and message warnings which improve the client experience (Lwanga & Adong, 2016, p. 5).

2.4. Categories of Mobile Banking

Mobile banking comprises of the following categories:

The first category is mobile information services which transmit one-route data. They include balance alerts, payment dates and verification of transactions issued usually via SMS. This route is inexpensive and is applied via emails though it has some competitive drawbacks (Ashoka & Ramaprabha, 2018, p. 111). Next is mobile banking services which are a two-route communication system which consists of mobile accounting, mobile brokerage and mobile monetary data (Mohr, 2001, p. 24).

2.5. Mobile Banking Services

Mobile Banking Services are detailed below:

Mobile banking services have picked up pace in more developed countries that highly depend on inventions to simplify every day operations (Porteous, 2006, p. 19). These services include notifying clients on upgrades, handling client inquiries and requests via mobile gadgets (Bangens & Soderberg, 2008, p. 13). These requests comprise of electronic mini statements and account statements that indicate previous account activities. Moreover, clients can make balance inquiries on how much money is left on their accounts to plan well (Tobbin, 2012, p. 79). Mobile banking services permit electronic payments due to the cooperation between telecom firms and monetary

institutions. For instance, in Uganda, the National Water and Sewerage Corporation and Uganda Telecom cooperate to simplify electronic payments for water bills (Gencer, 2011, p. 102).

Furthermore, Short Messaging Service (SMS) banking is applied worldwide to carry out banking services via fixed texts. It involves two-way actionable alerts and text response services (Breune, 2007, p. 138). It is used over any mobile gadgets with SMS capacity. These messages do not require any complex language or writing format. SMS banking is quick and operative even with a weak network connection and it is implemented at a rate of 81% monthly. However, it is an extra expense with complex data-entry (Imetur, 2012, p. 18). In SMS banking, clients forward their requests to monetary institutions via push or pull text modes as portrayed below:

Table 2.1: Portrays the Text Modes for Short Messaging Services

	Push Mode	Pull Mode
Transaction		Funds transfer Bill payment Share trade Cheque order
Inquiry	Minimum balance alert Credit & debit alert Bill payment alert	Account statement inquiry Balance inquiry Cheque status inquiry Transaction history

Source: (Dennis & Frances, 2010, p. 16)

Table 2.1 presents SMS banking where transactions are classified under the pull mode. This mode helps monetary institutions to transmit one-route messages and notify clients about the state of their accounts. However, inquiries are categorized under both pull and push modes. The push mode transmits two-route texts. Here, customers forward queries to their financial institutions using cyphers after which they are replied with the necessary answers through SMS (Dennis & Frances, 2010, p. 16).

Wireless Application Protocol (WAP) service is a wireless communication platform that permits clients to access their monetary institutions via the internet. It connects web experience to mobile devices. The utilization of WAP service begun in 2006 though it was initiated earlier than that. This is because very few mobile gadgets can accommodate the application of WAP (Erick, 2015, p. 27). WAP banking doesn't need

the relationship between monetary institutions and telecom firms and transactions can be carried out from any location. It necessitates clients to sign in and out of the system hence rendering them safety (Breune, 2007, p. 139). However, its data entry is complex due to the small screens of the mobile gadgets. WAP relies on the internet to render services thereby involving internet charges from telecom firms. Lastly, clients need intelligence about its use to successfully apply it (Ainin et al., 2007, p. 5).

Mobile banking over Unstructured Supplementary Service Data (USSD) is another service where monetary institutions render services to clients without smart gadgets or internet. It involves USSD codes which are forwarded to clients to access any desired services. Here, clients dial a specific code and forward it their financial organization which replies them with a variety of services that are available. The USSD service is mostly relied on by clients who do not have the latest devices or means to access mobile banking services (Razak et al, 2013).

2.5.1. Mobile Money

Mobile money is a platform which allows clients to make savings and transactions via a subscriber identity module (SIM) and does not need bank accounts (Bangens & Soderberg, 2008, p. 17). It is the utilization of mobile gadgets to run monetary operations (Lwanga & Adong, 2016, p. 9). It permits the transfer of electronic funds between parties thereby simplifying electronic trade (Smith, 2012, p. 91). Mobile money was initiated in 2009 by Mobile Telephone Network (MTN) which is a telecom firm in Uganda. Currently, there is a 73% usage of mobile money in Uganda where the market is monopolized by MTN at 54% thereby gaining monthly returns of over one trillion shillings. Moreover, after an alliance between MTN and the Bank of Uganda, mobile money clients have multiplied thrice compared to mobile banking ones. They rose from five million in 2012 to twelve million in 2013 as declared by the Uganda communication commission. In 2014, they increased again to seventeen million then above twenty million in 2016 (Imetur, 2012, p. 21). Mobile money is categorized into; mobile payments, mobile banking and mobile finance (Mohamed & Tarek, 2013, p. 42).

2.5.1.1. Mobile Payments

Mobile payments involve the utilization of mobile gadgets to acquire items or services (Awadhi, 2013, p. 59). These payments are categorized below:

Peer to peer (P2P) payment necessitates an individual to send funds to another at local or international levels. P2P payments exist commonly amongst pals and relatives. Another category is peer to business/government (P2B/G) payment which requires an individual to send funds to a business or government. The businesses under P2B include teaching institutions, resource donors and business dealers while P2G involves administering transactions with governments to clear taxes or compulsory fees (Bangens & Soderberg, 2008, p. 21).

Business/government to peer (B/G2P) payment entails that governments or businesses pay funds to individuals in terms of; salaries, grants and communal rewards. G2P payments act is a way for accessing modern markets. These payments were estimated to advance globally by one trillion in 2015 (Thompson et al., 1991, p. 137).

Business to business payment considers paying for items and services amongst firms. Here, firms can operate hand in hand for instance, producers could sell to suppliers and small-scale sellers (Tobbin, 2012, p. 81).

Business to client (B2C) payment deals with transactions amongst firms and clients. B2C payment can be done via the internet or bank accounts hence connecting with numerous clients. Such electronic payments minimize expenses thereby increasing their popularity (Thompson et al., 1991, p. 137).

Client to business payment starts with clients discussing the planned expenses with various firms via the internet. Later on, these firms screen the clients' specifications and plans then communicate their offerings to them. Afterwards, clients will analyze these offerings and choose which firms to transact with as per their desired requests and expenses (Legris et al., 2003, p. 201).

2.5.1.2. Mobile Finance

Mobile finance is a method utilized by firms to extend credit to their clients. This credit goes hand in hand with investments that are used as electronic pockets. Through electronic pockets, mobile network operators can cooperate with insurance firms to reach clients who desire mobile finance (Dennis & Frances, 2010, p. 6).

2.6. Benefits of Mobile Banking

Mobile banking has benefits discussed as follows:

Through mobile banking, clients can carry out transactions cheaply by minimizing expenses like transport charges for going to monetary institutions. It simplifies payments that were a challenge in the previous centuries. Mobile banking simplifies answering the queries of clients whereby any desired documents can be sent back and forth with ease. It tracks the clients' account activities for future references since all annual transactions are recorded (Zahra et al., 2012, p. 1). Mobile banking notifies clients about any foreign activities done on their accounts thereby strengthening its security. It permits clients to carry out account activities from different countries without any complications. Moreover, it sends notifications and advertisements to clients thereby maintaining contact with them. Mobile banking enables monetary institutions to access clients in remote locations which eliminates communication expenses (Shaikh & Karjaluoto, 2015, p. 136). It assists clients to clear debts and refrain from fines in time due to its high speed. Mobile banking grants financial institutions a competitive superiority. It spares time which can be directed to constructive sections for example; marketing, sales et cetera (Truong, 2009, p. 185). Mobile banking assists to retain clients and capture large client sections. It provides high quality services to even low-income earners from distant locations (Bangens & Soderberg, 2008, p. 25). It brings in development thereby uplifting destitute societies from impoverished standards (Gencer, 2011, p. 105). Mobile banking backs up online banking which allows client interface via mobile gadgets (Nafsaniath, 2015, p. 54). It renders appropriate procedures for speeding up activities. Consequently, it helps to ascertain a firms' success or failure (Breune, 2007, p. 139). This banking is an updated bank-client

medium that renders faster services. It varies from the internet or online banking due to its consistency and elasticity. It permits transactions with no limit to time or place. It renders information on stock markets or invoices that could be scanned by using phone cameras and it is user-friendly. It also tracks geo-locations of transactions hence ensuring client safety (Kurbanoglu et al., 2006, p. 740).

2.7. Problems of Mobile Banking

Though mobile banking provides uncountable benefits, it has some difficulties that are highlighted below:

Mobile banking is supported by the internet yet there are internet problems in the least developed states which complicate its implementation. It is insecure if wrong individuals gain access to clients' accounts and carry out illegal activities. For instance, at Standard Chartered Bank in Uganda, a hundred and thirty-five million dollars were stolen due to unauthorized account access (Dennis & Frances, 2010, p. 21). Similarly, mobile banking is not fully accepted in Africa due to the different communal constructs. On the other hand, it is hard to get skilled people to operate such inventions. Besides, employees who know how to operate mobile banking technology are not easily found. Therefore, many monetary institutions rely on external capabilities to survive. Banking inventions are not sufficiently recognized by the public which is a large plague. This is because most citizens have no idea that mobile gadgets assist in carrying out banking activities. Therefore, this exposes the need to sensitize people on the values of mobile banking (Lwanga & Adong, 2016, p. 14).

2.8. The Procedure for Utilizing Mobile Banking Technology

These are the steps that clients fulfil before undertaking Mobile Banking Activities (MBA):

The first step is to open accounts with a chosen financial organization. Here, clients go to monetary institutions with the recommended requirements for holding financial accounts. Such requirements include identification cards, passport photos, etc.

Then clients are given debit cards that bear details such as; their names, card number etc. The second step is clients' mobile gadgets must contain the general packet radio service (GPRS) which is a packet-centred wireless transmission service with 56-114 kilobytes of data to link internet to mobile devices. The internet permits the subscribers to accomplish video dialogues and interface with their monetary institutions. GPRS is a global system of mobile transmission which integrates short messaging services (SMS), circuit-switches and cell phones (Mohr, 2001, p. 27).

Next, the client forwards an SMS to the monetary institution to request for a link to its mobile banking services. Then the monetary institutions inbox clients a link to their banking system. Clients will tap the given link then install the software of mobile banking apps. Afterwards, they proceed to the main menu and enter their debit card number for verification (Truong, 2009, p. 184). Lastly, the customer advances to option and restarts the mobile gadget. Upon completion, clients can access services while obtaining notifications for all account activities undertaken. For the successful application of mobile banking, clients must be subscribers of the telecom firm which works with their financial institutions. They appeal to mobile banking by filling in convenient forms. Some mobile banking services are costless though there could be SMS charges (Mohsina, 2010, p. 17).

2.9. Aspects that inspire the Acceptance of Mobile Banking Technology

The advancement of inventions has enhanced the utilization of Mobile Banking Applications, thereby increasing transactions with monetary institutions. This survey emphasizes that Customer Loyalty and Technology Acceptance Models (TAM) and Theories encourage the acceptance of mobile banking technology as seen below:

Table 2.2: Portrays the related studies that prove the influence of TAM and Customer Loyalty on the Acceptance of Mobile Banking Technology

Ainin et al	2007	A survey on the acceptance of mobile banking was conducted in Malaysia. It focused on mobile banking as a new invention in the finance sector. It applied the innovation diffusion theory to analyze the clients' behaviour and motivation for accepting this invention. It declared that individual features ascertained the acceptance of inventions thus enabling monetary institutions to comprehend client perceptions and develop better marketing approaches to create awareness about such inventions.
Akturan & Tezcan	2012	A study was carried out on the acceptance of mobile banking among youths in Turkey. The authors relied on individual discussions with four hundred and thirty-five university students. They found that PU impacted the acceptance of mobile banking because when clients recognized that implementing such an invention satisfied their needs, they developed good perspectives towards it. This emphasized that PEoU influenced PU. Attitude and PU influenced BI, perceived benefits, social and performance risks thereby portraying BI's impact on the acceptance of mobile banking. Besides, subjective norm (SN) contributed to this impact too.
Amin M	2016	A research about the quality of internet banking and its effects on electronic client satisfaction and electronic client loyalty was carried out on five hundred and twenty respondents. With a 52% response rate, it relied on corporate image, personal need, user friendliness and the efficiency of the website to analyse this effect. It revealed that the corporate image, the quality of services, e-customer satisfaction and e-customer loyalty are effective aspects for the implementation of internet banking. The quality of internet banking affects e-customer satisfaction and e-customer loyalty of clients in developing states. It also enhances BI and attitude of clients to continue utilizing internet banking and the bankers to execute favourable marketing techniques.
Ashoka & Ramaprabha	2018	The authors carried out a survey on TAM and the utilization of mobile banking in Karnataka, India which is thriving economically. They implemented a descriptive research method on the sample of three hundred participants to comprehend the constructs that impact mobile banking. With a 40% response rate the survey exposed that PU, PEoU, perceived cost, security and trust positively impacted the utilization of mobile banking. Perceived risk negatively affected it whereas region did not impact it.
Awadhi A. A.	2013	A research was conducted on the constructs that ascertained the usage of mobile banking in Bahrain. It evaluated four hundred clients of Ithmar Bank and Bahrain National Bank thereby asserting a 90% response rate. It mentioned that attitude and BI influenced the utilization of mobile banking.

Beh Yin & Faziharudean	2010	A research about a model which focused on the utilization of information systems was carried out to expose the aspects that influence client loyalty to utilize internet banking in Malaysia. It was conducted due to the lack of many surveys elaborating this topic in Malaysia. Internet banking is broadly applied by various clients however, it has become a task to maintain the clients since monetary institutions are competing over the available market. The survey relied on the quality of services, perceived value, habits and the reputation of the financial institutions as its constructs. It revealed that trust, habit and reputation impact client loyalty to utilize internet banking yet the quality of services and perceived value do not. Though service quality affects the acceptance of inventions, it does not impact client loyalty hence emphasizing the constructs that need to be focused on for monetary institutions to retain more clients.
Chian-Son Yu,	2012	A different survey on four hundred and forty one participants was undertaken to explain the constructs that enticed people to accept mobile banking. It applied unified theory of acceptance and use of technology (UTAUT) by relying on perceived cost, security, perceived risk and trust as aspects that influenced the utilization of such banking techniques. It declared that BI was impacted by social influence, perceived financial cost, performance expectancy and perceived credibility. Additionally, gender and age did play a role in the acceptance of mobile banking.
Erick Ochieng Otieno	2015	A survey on how small and medium enterprises (SMEs) applied mobile payments was conducted in Kenya. It utilized technological, organizational and environmental (TOE) theory while focusing on three hundred seventeen SMEs including; hotels, restaurants, supermarkets and travel companies. It is among the few studies on SMEs since most research is about the acceptance of M-Pesa (mobile money). It reported a rise in the utilization of mobile payments and commerce of SMEs in Kenya. This was a result of high competition where all manufacturers struggled to provide the best products. Additionally, SMEs focused on using simple payment techniques with improvements in electronic and mobile commerce.
Francisco Muñoz-Leiva et al.	2017	The authors researched on BI to apply mobile banking of one hundred and three clients in Spain. They relied on TAM and innovation diffusion theory to gather data from online surveys which were analysed through the structural equation model (SEM). It mentioned that attitude influenced MBA through its impact on BI while PU and risk didn't.
Fredrick & Isak	2018	A research about the role of client loyalty in the acceptance of mobile banking amongst one hundred and fifty three millennial participants was implemented in Sweden. It relied on exploratory factor analysis and regression analysis thus asserting that loyalty, trust, satisfaction, commitment and risk impacted the utilization of mobile banking. However the

		level of loyalty is low and therefore more surveys are needed to identify the constructs that affect the loyalty of millennial and the population at large to utilize mobile banking.
Jansson, E., & Letmark, M.	2005	A survey was conducted to comprehend how client loyalty related to internet banking. Internet banking enhances clients who depend on the internet to run transactions and keep in touch with their financial institutions. Therefore, retaining such clients is very beneficial as competitive threats could be faced along the way. The survey applied interviews and questionnaires that focused on loyalty and its concept to enable the stake holders to comprehend its role in the acceptance of internet banking. Though the response rate was low, it indicated the effects of client loyalty by mentioning the concepts of loyalty that must be recognized before comprehending how loyalty is formed. It exposed variations in the attitude and behaviour of the clients basing on the techniques they relied on to implement internet banking. Even the monetary institutions emphasized the benefits of applying internet as a key to banking. Loyalty was evidenced by most clients who were contented with their monetary institutions and preferred to continue operating with them. Nonetheless, a few were discontented with the provided services though they could encourage friends and families to operate with the same financial organizations.
John, Krishna, & Yadawalli	2013	Another study on the implementation of extended TAM in comprehending the acceptance of technology-enabled financial service was carried out in South Africa. Such technology incorporates even the individuals at the bottom of the pyramid. The research seeks to clarify the extent to which these individuals utilize such services. The survey relied on confirmatory factor analysis to declare that PEoU, PU and attitude influence BI whereas social factors and self-efficacy had insignificant effects.
Keli Timothy	2012	A research on the components that impact the acceptance of mobile phone banking was carried out in Kenya. This banking is broadly applied as it is inexpensive and secure. The survey focused on sixty participants to gather information which was assessed through mean and standard deviation. It asserted that personal innovativeness, PU, PEoU, relative advantage and innovativeness affected the acceptance of inventions while risk negatively corresponded. On the other hand, SN and the influence of media on mobile phone banking were not effective. Moreover, it mentioned that participants found mobile banking inexpensive, secure and could be trusted.
Macharia Francis Mucheru	2013	A survey was conducted to ascertain the constructs that impact the acceptance of information technology (IT) in the healthcare services of private hospitals in Kiambu, Kenya. This was due to the failure of most hospitals to satisfy their

		clients. With the help of technology adoption theories, it declared that staff information, features of information systems, innovativeness of the top managers and knowledge about communication technology affected the acceptance of IT though external elements did not. It suggested that information systems must be included in all courses since it majorly dictates the acceptance of technology and more training programs should be put in place for the users.
Mohamad, Normah, Nora'ayu & Irni	2012	A survey on the usage of mobile banking, satisfaction and loyalty was conducted in Malaysia. It explored if there was any relationship between these terms by gathering data from three hundred twelve participants. It asserted that mobile banking correlated with satisfaction and not loyalty yet satisfaction forecasted loyalty to utilize mobile banking.
Mohammad Hossein	2015	A survey on mobile banking loyalty in Iran was conducted to ascertain how PU, SN and personal innovativeness impacted attitude to utilize mobile banking. It implemented structural equations modeling and path analysis to assert that system compatibility, PU, PEoU, SN and personal innovativeness affected the attitude to accept inventions. Besides, resistance had a negative impact on PU. However, more research is necessary to scrutnize clients who do not apply mobile banking as this survey only looked at its users.
Mohamed & Tarek	2013	The authors surveyed on the role of TAM and planned behaviour theory (PBT) on mobile banking in Dubai, UAE. They concentrated on a hundred and nineteen people to produce vital conclusions from analysing the proposed hypotheses. It utilized a bias temporal separation approach and Harmon's one-factor test to examine the gathered data. Its findings portrayed that attitude and SN affected mobile banking whereas PU influenced this attitude to utilize mobile banking.
Monzur Morshed Patwary	2017	A study ascertaining the constructs that impact BI to accept mobile banking was carried out on two hundred and seventeen youths in Eskisehir, Turkey. While relying on TAM, factor analysis and structural equation modelling, it expressed that trust and PU impacted BI while PEoU affected PU and loyalty. Likewise, mobile banking enhanced work and saved time as youths assumed that mobile banking transactions were simple and therefore utilized it. It indicated that facilitating conditions (FC) impacted behavioural control (BC) and BI. FC include availing smartphones as gifts or entering into agreements with telecom firms to provide better-priced internet packages which encourage mobile banking activities (MBA). Nevertheless, gender effect on to the acceptance of inventions was not evidenced.
Nafsaniath, David & Margaret	2015	A research was conducted on constructs that influence faculty members to utilize learning management systems (LMSs) to simplify teaching and ensure that these systems were fully applied. It implemented TAM on five hundred sixty participants from two universities and used structural

		equation modelling to assess their beliefs, attitudes and BI. It mentioned that system quality, perceived self-efficacy and FC affected the attitude to implement such systems.
Nazlı Özge Özdemir	2014	A survey exploring the effect of innovation diffusion theory and demographic features in the acceptance of mobile banking was carried out in Turkey. It depended on relative advantage, observability, complexity, compatibility, image, cost and risk as its reliable constructs. It proposed that more focus should be put on the merits of mobile banking and reduce its risks and complexity.
Paddy Mugambe	2017	A survey was carried out on UTAUT to highlight the acceptance of mobile money utilization by clients of micro small and medium enterprises (MSME) in Uganda. MSMEs were focussed on as they are directly or indirectly impacted by the rise of mobile money technology. It expressed that social influence, habit and FC impacted BI whereas price value, effort expectancy and hedonic motivation had less significant effects**.**
Razak et al ,	2013	The authors examined a study on the clients' acceptance of mobile banking services in Makassar. It focussed on one hundred eighty respondents and TAM thereby relaying that PEoU impacted PU and BI whereas PU affected BI. It suggested that monetary institutions must assess PU and PEoU to enhance the utilization of such services.
Shaikh & Karjaluoto	2015	A research on mobile banking adoption was conducted to evaluate the constructs responsible for the acceptance of mobile banking. It declared that compatibility, PU and attitude affected the BI to accept mobile banking technology in both the first world and growing states. It suggested more emphasis to be put on the consequences for utilizing this technology on a large scale.
Simge Çakıcı	2008	A study about the acceptance of mobile banking in Antalya, Ankara and Istanbul was carried out on two hundred and one participants who are all users and above twenty two years old. It exposed that attitude, subjective norm, self-efficiency, identification effects, PU, PEoU, trust and internal influences affected BI to utilize mobile banking in Turkey. It also exposed variations in the means of gender where the males had more FC than females and employment sectors where bank employees are more interested than engineers whereas employees in education department preferred the brick and mortar system than those in the finance and communication departments. It proposed that such constructs require to be assessed further in future surveys.
Smith K.T.	2012	A study about the components that influence mobile banking activities (MBA) amongst mature people was carried out in South-West US University. It put attention on UTAUT with its variables involving trust and innovativeness. It applied qualitative evaluation and relied on a Likert scale to assert that performance expectation, FC and innovativeness impacted BI. Nevertheless, BI to undertake MBA was not

		influenced by effort expectancy and social influence in South-West US University.
Suharto & Finny	2018	The authors directed a survey on client loyalty regarding e-banking and client responsiveness. It applied a proportional random sampling technique and structural equation modelling on one hundred and ten clients of BRI Bank in Lampung, Indonesia. It proved a correlation between e-banking, client responsiveness and client loyalty. Moreover, the utilization of inventions impacts client responsiveness which impacted client loyalty. This calls for high quality services to be rendered to the clients so as to please and maintain them.
Sulieman & Ahlam	2017	A research was conducted on the effects of e-banking on client loyalty in Jordan. It applied PEoU, PU, cost, website design, privacy and accessibility as its constructs. It focused on four hundred participants of Cairo Amman Bank, Ahli Bank, Bank Al-Etihad, Bank of Jordan, Arab Bank and the Housing Bank for Trade and Finance from the north of Jordan. It confirmed that PEoU, PU, website design and privacy affected client loyalty whereas, accessibility did not. It suggested that experts in electronic website design must be used since the attractiveness of websites calls for expertise to please clients and maintain them. Also, the experience in software inventions should be focussed on and also strengthen privacy to attain a competitive advantage.
Sunil & Rachna	2013	A research about TAM's aspects that inspired the acceptance of mobile banking was carried out in India. Although mobile banking was launched earlier, it is accepted at low rates. Besides, mobile banking in India was impacted by performance expectancy, effort expectancy, social influence, FC and BI. This reflected that India was gaining advanced levels of accepting mobile banking since it was inexpensive and yielded high earnings for monetary institutions.
Thakur .R.	2013	Another survey on the clients' acceptance of mobile payment services applied a cross-sectional research design that exposed a 73% response rate thereby revealing accurate conclusions. It relied on a structural equation model which portrayed a relationship between the aspects for accepting mobile inventions. It portrayed that many enterprises in Kenya emphasized the quality of human resources and inventions for their survival. They utilized mobile payments within their operations that saved time.
Timothy Gikandi	2015	A survey on the acceptance of mobile banking by savings and credit cooperative organizations (SACCOs) was carried out in Nairobi, Kenya. Kenya's non-banking clients accessed monetary services through SACCOs though the involvement with SACCOs is at a low level. It applied a descriptive research design on an expected sample of forty-four SACCOs in Nairobi. Semi-structured questions were administered to ten SACCOs that willingly

		participated in the survey. The qualitative data was evaluated using the thematic content analysis. The research utilized factor analysis to classify aspects that make SACCOs to accept mobile banking. Additionally, Anova tests and multivariate regression analysis were implemented to measure the relationship between independent and dependent variables. It declared that perceived welfare, external environmental components, organizational readiness and security concepts influenced SACCOs to accept mobile banking. It proposed that SACCOs should share the value of utilizing mobile banking to attract more users as it is suitable, accessible and economical.
Tobbin. P.	2012	A survey was carried out on the acceptance of mobile banking on non-banked clients in Ghana. This survey ascertained the components that impact MBA through one on one discussions with a sample size of two hundred and thirty-one respondents. It centred on a rural surrounding with non-banked clients since the users of mobile gadgets outnumbered those having bank accounts worldwide. It relied on a deductive statistics method and qualitative procedures that declared the components impacting MBA in Ghana. Its results portrayed that culture, PU, PEoU, SN, economic components and trust influenced BI to carry out MBA.
Zahra et al.,	2012	The authors directed a survey on the influence of local marketing on the acceptance of mobile banking in the Democratic Republic of Congo. The survey relied on three hundred and ninety representatives. It applied factor analysis and descriptive analysis while putting more attention on regression analysis. Its findings asserted that PU, PEoU, BI, attitude, political and legal components affected MBA. It indicated that PEoU affected loyalty and no correlation existed between PU and BI. It further expressed that attitude influenced the acceptance of inventions.

CHAPTER THREE
MOBILE BANKING ACTIVITIES AND TECHNOLOGY ACCEPTANCE MODELS AND THEORIES

Chapter three portrays; the Objectives of the Study, Statement of the Problem, Importance of the Study, Scope of the Study, Hypotheses of the Study, Research Methodology, Analysis of the Study, Arguments, Conclusions and Recommendations.

3.1. Objectives of the Study

To conduct this research accurately, the following objectives are set as stated:

i. To examine the degree at which Mobile Banking Activities are carried out in Uganda.
ii. To reveal the constructs of Technology Acceptance Models and Theories that influence Mobile Banking Activities in Uganda.
iii. To discover and assess the Mobile Banking Activities that exist in Uganda.

3.1.1. Statement of the Problem

Banking inventions have increased worldwide which is forcing financial organizations to rely on mobile banking technology to access their existing and new clients. Although mobile banking technologies exist in Uganda, they have not reached the desired level of large consumer segments yet. This is because the clients in Uganda have not adjusted fully to utilize such technology as expected. They still depend on the brick and mortar style which is characterized by long lines where a lot of time wasted on waiting to be serviced especially during the payment of school tuitions and receiving salaries (Isaiah, 2008, p. 6). Therefore, these clients must adopt mobile banking technology to access services faster and for monetary institutions to enlarge their market coverage. Also retaining clients is essential for the survival of institutions as mobile banking is among reasons why clients stay loyal to a specific monetary institution (Fredrick & Isak, 2018, p. 39). If loyalty decreases, the number of clients reduce too which makes it difficult for

monetary organizations to reach their targets. However, if financial organizations satisfy client expectations, then loyalty can be established and these targets can easily be met (Edvardsson et al., 2000, p. 117).

3.2. Importance of the Study

The study will benefit the following shareholders:

Clients particularly those from unbanked societies of Uganda will attain awareness about mobile banking and its value. They will get to know that mobile banking reduces time wasted in long queues. Furthermore, clients will be enlightened on how carrying out mobile banking activities can satisfy their monetary desires via their mobile gadgets.

The government will attain enough information and create a conducive environment for financial institutions to reach the public at large and increase their market coverage. Such an environment could include reducing taxes imposed on monetary institutions or new inventions.

Researchers, this research will contribute to the existing studies on mobile banking while highlighting the constructs that lead to its acceptance worldwide. Additionally, it will also increase on the few theses that are conducted about mobile banking and its implementation in Uganda.

Financial institutions, this research will provide the basic field information that monetary organizations need to understand client needs and desires. This will direct them on where to invest thereby indicating areas that need improvements and precaution.

3.3. Research Model

The study aims at demonstrating how the constructs of the Technology Acceptance Model (TAM 1) and Reasoned Action Theory lead to the application of Mobile Banking Activities (MBA). These constructs are mentioned as perceived usefulness and perceived ease of use, attitude and behavioural intention (BI) (Edvardsson et al., 2000, p. 120). Other constructs for instance; customer loyalty and demographic features are evaluated too since

they ascertain the acceptance of mobile banking invention. Moreover, customer loyalty towards carrying out MBA is examined since high rates of loyalty raise the level of accepting inventions. Therefore, client loyalty should be included in similar topics (Fredrick & Isak, 2018, p. 41). However, researches assert that other constructs for instance; perceived playfulness, perceived enjoyment and perceived credibility should also be focussed on to understand their impact on the acceptance of mobile banking (Thakur, 2013, p. 27).

3.4. Hypotheses of the Study

Basing on the aims of the research, several hypotheses are established as follows:

3.4.1. Perceived Ease of Use (PEoU)

PEoU is evaluated upon accomplishing specific results from implementing an invention. It is user-friendly and assists clients' to interface after they learn that inventions require no mental effort. Here, clients utilize universal computer interfaces due to inadequate information (Adams et al., 1992, p. 240). PEoU concentrates on behavioural decision theory while basing on individual experience. High PEoU makes clients highly productive which is an indicator of utilizıng inventions. Low PEoU makes the utilization of innovations complex (Venkatesh & Davis, 2000, p. 204). Therefore this tests if:

H_1: Perceived ease of use impacts the Attitude and BI to carry out Mobile Banking Activities.

H_{1a}: Perceived ease of use influences Perceived Usefulness of carrying out Mobile Banking Activities.

Furthermore, the ease with which a website is used enhances Client Loyalty thereby testing whether:

H_{1b}: Perceived ease of use affects Client Loyalty to carry out Mobile Banking Activities.

3.4.2. Perceived Usefulness (PU)

PU is related to trial-ability where clients understand inventions by testing them before accepting them fully. PU is declared as a determinant of attitude and BI since it contributes to the productivity and acceptance of software inventions (Adams et al., 1992, p. 232) hence testing if:

H_2: Perceived Usefulness greatly affects attitude to carry out Mobile Banking Activities.

Also, PU has a positive impact on behavioural intention (BI) as verified by various studies on information technology. Here, individuals find technology useful to run any errands they wish. Therefore the correlation between PU and BI should not be ignored (Wang, Lin & P. Luarn, 2006) thus:

H_{2a}: Perceived Usefulness has an impact on behavioural intention to undertake Mobile Banking Activities.

H_{2b}: Perceived Usefulness affects client loyalty to carry out Mobile Banking Activities.

3.4.3. Attitude

Attitude impacts behavioural intention (BI) to utilize inventions. It expresses that carrying out certain conduct leads to specific consequences that individuals are aware of (Bilgin, 2001, p. 8) hence testing:

H_3: Attitude impacts behavioural intention to carry out Mobile Banking Activities.

3.4.4. Behavioural intention (BI)

BI signifies that reinforcing the client-business correlations is effective in the utilization of both services and items since it predicts the future utilization of an invention. Under BI, individuals undertake an activity after deciding about it (Bilgin, 2001, p. 12). BI impacts attitude, subjective norm (SN) and the acceptance of innovations as tested:

H_4: Behavioural intention influences Mobile Banking Activities.

3.4.5. Customer Loyalty

Client Loyalty refers to a client's positive attitude towards financial organizations. Furthermore, it is where clients suggest specific financial institutions to friends and relatives (Edvardsson et al., 2000, p. 123). Such clients are loyal due to inadequate choices and high expenses of diverting to other firms. This diversion is based on the age of clients for instance, elderly clients are less interested in changing service providers whereas youths have no difficulty in doing so (Fredrick & Isak, 2018, p. 44). Hence analysing:

H_5: Client Loyalty greatly influences Mobile Banking Activities.

3.4.6. Demographic features

There is less research about the impacts of demographic features on the attitude to accept mobile banking in Uganda. Therefore, this study examines these impacts by relying on the hypotheses below:

H_6: Users' demographic features affect their attitude to carry out Mobile Banking Activities:

H_{6a}: Users' gender impacts their attitude to carry out Mobile Banking Activities.

H_{6b}: Users' age influences their attitude to carry out Mobile Banking Activities.

H_{6c}: Users' occupation affects their attitude to carry out Mobile Banking Activities.

H_{6d}: Users' education impacts their attitude to carry out Mobile Banking Activities.

Figure 3.1: Illustrates the hypotheses and their impact on Mobile Banking Activities

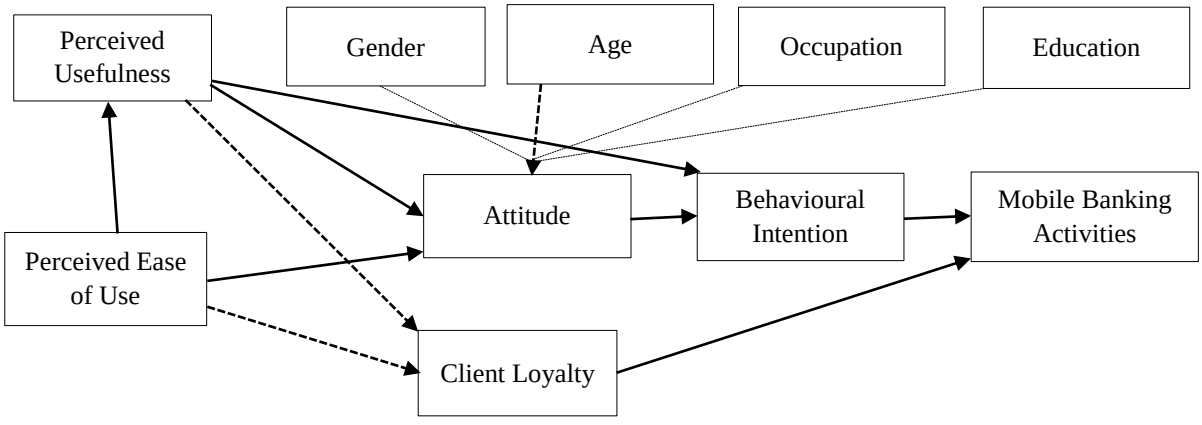


Figure 3.1 shows that attitude, perceived usefulness, perceived ease of use, client loyalty, behavioural intention, demographic features; gender, age, occupation and education influence the application of mobile banking activities. It is obtained from (Bilgin, 2001) and (Mustafa, 2020) but since the survey includes client loyalty, the figure has been restructured to fit the research purposes.

3.5. Scope of the Study

The study is about Mobile Banking Activities (MBA) and Technology Acceptance Model (TAM 1) and Reasoned Action Theory basing on a case study of Kampala province in Uganda. Its independent variables comprise of Attitude, Perceived Usefulness (PU), Perceived Ease of Use (PEoU) Customer Loyalty, Demographic Features and Behavioural Intention (BI) whereas MBA is the dependent variable.

3.6. Limitations of the Study

The researcher faced some constraints while conducting the survey which are discussed below:

Limited funds because the finances for conducting this survey were not sufficient since the expenses for transport and research equipment exceeded the existing funds.

Resistance from some participants who did not willingly cooperate with the researcher. These participants were refusing to answer necessary questions as they claimed to be busy or in a hurry. Therefore, it was a hard task to find willing respondents for the data accumulation process.

Time restraint as the period given for the research was not enough since it entailed gathering data, assessing it, evaluating its results and drafting the best conclusions that all consumed time.

Limited information, the sources of secondary data were a challenge because numerous textbooks in the school library are in Turkish. This forced the researcher to rely mostly on internet journals, articles and publications in English.

Although the above shortcomings created a complicated environment, the researcher was able to concentrate on completing the thesis.

3.7. Research Methodology

The survey's research methodology comprises of the; research design, target population, sample size, sampling approach, sources of data, data collection techniques, examining and processing of the data.

3.7.1. Research Design

The survey administers a descriptive research design which has been applied by multiple studies effectively thereby obtaining excessive data while consuming less time, funds and effort (Bilgin, 2001, p. 17). This research design deals with the distribution of questionnaires to respondents. It simplifies the provision of quick feedback for desired questions. Furthermore, it enables the researcher to report, document, appraise and recount the prevailing situations (Kothari, 2014, p. 30). This design is utilized to prove if there is a correlation between mobile banking activities and technology acceptance models and theories in Kampala, Uganda.

3.7.2. Target Population

A population is the collection of people or substances that have similar noticeable features. The target population is one the researcher expects to concentrate on during the study (Mugenda & Mugenda, 2008, p. 3). This population includes banking and non-banking government employees, private sector employees, students and other citizens ranging from 21 years and above in Kampala province of Uganda.

3.7.3. Sample Size

The sample size comprises of 250 respondents who are both banking and non-banking government employees, private sector employees, students and other citizens ranging from 21 years and above in Kampala, Uganda. Banking and non-banking

participants are focused on to render an accurate insight on client loyalty, attitude and intention to carry out mobile banking activities.

3.7.4. Sampling Technique

The stratified random sampling and systematic sampling approaches are applied to analyse the population for the survey. Stratified random sampling method is implemented because the population consists of various categories of participants. Additionally, a systematic sampling approach is applied to expose the actual number of respondents. Furthermore, it regulates any changes in the population thereby eliminating any errors from the study (Kothari, 2014, p. 34).

3.7.5. Data Collection Methods

The researcher applies primary and secondary data accumulation methods to gather information as discussed:

Secondary data is accumulated from examining the previous similar studies, e-journals and textbooks which rendered valuable details.

Primary data is gathered through questionnaires which are categorized into two parts to ensure data accuracy, authenticity and broad perceptions on the variables. The first section of the questionnaires contain closed-ended questions that are concerned with the variables of technology acceptance models (TAM) and theories acquired from Isaiah's survey about the application of technology acceptance model in the adoption of mobile banking in Kenya (Isaiah, 2008, p. 45). Furthermore, questions on loyalty are retrieved from Fredrick and Isak's survey about customer loyalty in mobile banking of the millennial generation (Fredrick & Isak, 2018, p. 47) and Mohammad's study on mobile banking loyalty in Iran (Mohammad, 2015, p. 39).

The second section of the questionnaire requests for the respondents' personal details that entail; age, gender, level of education, occupation, marital status, any bank accounts owned, the period of having the accounts and the interval of balance check-ups

that are extracted from; (Isaiah, 2008, p. 47). Additionally, the closed-ended questions are arranged on a five-point Likert Scale so that evaluations of participants don't impact the authenticity of the study. The questionnaires are implemented by using the drop and pick-later technique to reach mobile banking users and non-users from diverse fields of work in Kampala province.

3.7.6. Data Collection Procedures

Initially, the researcher drafts a proposal after the university faculty confirms the topic. Later the researcher begins the survey by attaining the respondents' confirmation to administer the study triumphantly. Then accumulates data via questionnaires while picking out respondents at random to access genuine results. Besides, the researcher highlighted the topic to some respondents who had no idea about it. Basing on the respondents' time preference, the researcher conducted face to face discussions where necessary to get the right response from them.

The study utilizes questionnaires to assess 250 participants of Kampala in Uganda. These questionnaires got distributed to respondents and some e-mailed to them in case of no physical access. Afterwards, the researcher expressed gratitude to the participants for their cooperation and time then re-examined the questionnaires to ensure every question was well attended to and eliminate any errors.

3.7.7. Questionnaires' Validity and Reliability

The questionnaires' validity and reliability are examined to eliminate errors from the gathered data. Validity is the extent to which the accumulated information reflects the aims of the study. It verifies whether the results of a survey are what they claim to be (Kothari, 2014, p. 37). It is a level at which data accumulation techniques are implemented to evaluate the findings of a survey (Nguthuku, 2018, p. 22). Nonetheless, reliability is an extent to which the analysis is accurate and produces consistent results. Reliability test evaluates the level at which questionnaires avail uniform conclusions. It is an extent at which the results reflect the argument of a survey (Oliveira & Martins, 2011, p. 119).

During these evaluations, the constructs are independent of each other and they appraise how much they contribute to the final variable (Nguthuku, 2018, p. 24). The validity and reliability of the questionnaires are ascertained by implementing the Cronbach's Alpha coefficient via statistical package for social sciences (SPSS).

Table 3.1: Portrays the variables of the Reliability Test-Cronbach's Alpha Coefficient

Variables	Number of questions	Cronbach's Alpha-a
PEoU	8	0.860
PU	7	0.835
Attitude	6	0.803
BI	6	0.860
Loyalty	3	0.905
Total	**30**	**0.838**

Source: Primary data

Table 3.1 expresses Cronbach's alpha coefficient (a) as 0.838 which is above the recommended standard minimum alpha value, 0.7. Therefore, the reliability value is satisfactory. Cronbach's Alpha coefficients (a) for Perceived Ease of Use (PEoU), Perceived Usefulness (PU), Attitude, Behavioural Intention (BI) and Customer Loyalty are 0.860, 0.835, 0.803, 0.860 and 0.905 respectively. This test asserts that the measurement scales are credible for appraising the variables.

3.7.8. Measurement of the variables

A Likert scale with measurements of 1-5 is applied to ascertain a correlation between mobile banking activities (MBA) and technology acceptance models (TAM) and theories. This scale entails that 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly agree. TAM models and theories are evaluated by appraising constructs such as; perceived ease of use, perceived usefulness, attitude, behavioural intention, demographic features and loyalty basing on the clients' reactions toward MBA. Nevertheless, MBA are appraised while coordinating with the qualitative features of reliability, understandability and timeliness.

3.8. Data Analysis and the Presentation Techniques

The study applies both quantitative and qualitative techniques for data analysis. The data is exhibited in tables of; frequency distribution, factor analysis, normality test, linear regression analysis, homogeneity tests, independent T-test, Anova analysis and Welch and Brown Forsythe test.

3.8.1. Data Analysis

Data analysis is done by inputting data into the SPSS software and demonstrating the general information of respondents in the tables of a frequency distribution. Additionally, factor analysis is applied to clarify the correlations between the constructs. Also, normality tests are done to ensure the data is normally distributed to provide accurate results while homogeneity tests are applied to reveal if the variances of the constructs are equal. Furthermore, the T-tests are used to appraise whether the means of the gender groups vary. Moreover, one-way Anova tests and Welch and Brown Forsythe tests prove whether the means of the users' age, education and occupation have any variations so that their role on attitude is measured.

Meanwhile, since regression analysis explains the relationship between the dependent and independent variables (Nakip, 2003, p. 290), it is performed to explain the relationship between Mobile Banking Activities and Technology Acceptance Models and Theories.

3.8.2. Presentation and Analysis of the study's results

The appraisal of the relationship between Mobile Banking Activities and Technology Acceptance Models and Theories focuses on Kampala province as the study area. The data, results and conclusions are displayed to reveal a response rate and general data of respondents. The data is gathered through questionnaires and demonstrated as follows:

3.8.2.1. Response Rate of the participants

Although 300 questionnaires were distributed to the participants of the survey, 280 of them were recovered. Out of these, 30 questionnaires were not completed and therefore are excluded from the study leaving only 250 questionnaires as the reliable ones. From these questionnaires a response rate is measured as indicated below:

Table 3.2: Portrays the respondents' response rate

Questionnaires	Respondents	Percentage (%)
Distributed questionnaires	300	-
Recovered questionnaires	250	83.3

Source: Primary data

Table 3.2 exposes a response rate of 83.3% which is sufficient enough to draft suitable conclusions. This is because a 50% response rate is considered sufficient for the evaluation, 60% is good while >=70% is better (Mugenda & Mugenda, 2008, p. 3). Corresponding with table 3.2, 83.3% response rate is superb for drafting appropriate results of the study. Such a high response rate depends on the data accumulation techniques for instance; informing willing participants earlier about the questionnaires through the drop-off-and-pick-up method. This method involves administering questionnaires to respondents then gathering them later. It avails respondents with an extensive period to answer questions comfortably. Similarly, it contributes to a better response rate in contrast to other technics of distributing the questionnaires (Oliveira & Martins, 2011, p. 120).

3.8.2.2. General Information

The respondents' general information is displayed in terms of; gender, marital status, age group, education level, occupations, bank accounts opened, other accounts owned, period of use and interval of checking their account balances.

3.8.2.3. Gender of the Respondents

The gender layout of banking and non-banking respondents in Kampala province is demonstrated below:

Table 3.3: Portrays the respondents' gender

Gender	Frequency	Percentage (%)
Male	140	56
Female	110	44
Total	**250**	**100**

Source: Primary data

Table 3.3 illustrates that many respondents are male with a 56% rate while the female participants are less represented by 44%. This indicates that males undertook mobile banking activities more than females. Therefore, gender prejudice does not inflict these results (Kothari, 2014, p. 45).

3.8.2.4. Marital Status of the Respondents

The study focuses on ascertaining the respondents' marital status as follows:

Table 3.4: Portrays the respondents' marital status

Marital Status	Frequency	Percentage (%)
Single	87	34.8
Married	113	45.2
Other	50	20
Total	**250**	**100**

Source: Primary data

Table 3.4 implies that 34.8% of the participants are single, 45.2% are married while 20% are under others. The males from each category of marital status are 56% while 44% are females.

3.8.2.5. The age group of the respondents

The study focuses on computing the respondents' age group as displayed below:

Table 3.5: Portrays the respondents' age groups

Age group	Frequency	Percentage (%)
21-30 years	60	24
31-40 years	100	40
41-50 years	50	20
51years-Above	40	16
Total	**250**	**100**

Source: Primary data

Table 3.5 exposes that participants of 21-30 years age group cover 24%, 31-40 years occupy 40%, 41-50 years contribute 20% while 51-above age group is reflected by 16%. This emphasizes that multiple participants are middle-aged and capable of

undertaking mobile banking activities. These results are similar to a study on 395 participants which indicated that most mobile banking users were middle-aged between 31-40 years. This emphasized how middle-aged individuals had a high interest in innovations compared to other age groups (Isaiah, 2008, p. 50).

3.8.2.6. The respondents' level of education

The study requires the participants to specify their level of education which is demonstrated below:

Table 3.6: Portrays the respondents' level of education

Education level	Frequency	Percentage (%)
Other	13	5.2
High School	25	10
Diploma	36	14.4
Bachelor's Degree	75	30
Master's Degree	55	22
PhD	46	18.4
Total	**250**	**100.0**

Source: Primary data

Table 3.6 declares that 30% of the participants hold a bachelors' degree, 22% have a master's degree, 18.4% reflect PhD degree holders, 14.4% reflect diploma level, 10% have high school level and 5.2% belong to other. This indicates that the population sample contains more bachelor's degree graduates in contrast to others. The participants with bachelors' degrees undertake more mobile banking activities compared to their counterparts because education provides advanced awareness about inventions thereby simplifying the adjustments to a modern lifestyle (Nguthuku, 2018, p. 27).

3.8.2.7. Occupation of the Respondents

The study emphasizes the occupations of participants as follows:

Table 3.7: Portrays the Respondents' Occupations

Occupation	Frequency	Percentage (%)
Government employee	80	32
Private sector employee	74	29.6
Student	40	16
Others	56	22.4
Total	**250**	**100**

Source: Primary data

Table 3.7 illustrates that 32% of the respondents are government employees, 29.6% are private-sector employees, 16% are students while 22.4% belong to others.

3.8.2.8. The respondents' length of undertaking Mobile Banking Activities

The study necessitates its participants to specify for how long they have been undertaking Mobile Banking Activities (MBA) as demonstrated below:

Table 3.8: Portrays the respondents' length of undertaking Mobile Banking Activities

Length of Usage	Frequency	Percentage (%)
Less than 6 months	35	14
6 months	43	17.2
1 year	74	29.6
1 year and above	98	39.2
Total	**250**	**100**

Source: Primary data

Table 3.8 indicates that 39.2% of the participants have carried out MBA for more than one year, 29.6% have carried out MBA for 1 year, 17.2% have undertaken MBA for 6 months while 14% have carried out MBA for less than 6 months.

3.8.2.9. The bank accounts opened by the respondents to undertake Mobile Banking Activities

The study specifies if respondents opened bank accounts to carry out mobile banking activities (MBA) as portrayed:

Table 3.9 Portrays if bank accounts were opened to access Mobile Banking

Open bank account	Frequency	Percentage (%)
Yes	101	55.6
No	149	44.4
Total	**250**	**100**

Source: Primary data

Table 3.9 indicates 55.6% of the participants opened bank accounts with monetary institutions to carry out MBA whereas 44.4% didn't. This further emphasizes the low amount of using such banking innovations in Uganda.

3.8.2.10. Other bank accounts which respondents owned to carry out Mobile Banking Activities

The study specifies if respondents owned other bank accounts that render Mobile Banking Services as portrayed:

Table 3.10: Portrays other bank accounts owned to carry out Mobile Banking Activities

Other banks accounts	Frequency	Percentage (%)
Yes	106	42.4
No	144	57.6
Total	**250**	**100**

Source: Primary data

Table 3.10 demonstrates that 42.4% of the participants hold other bank accounts to carry out mobile banking activities (MBA) while 57.6% don't hence indicating the low rate at which MBA are undertaken in Uganda.

3.8.2.11. How often respondents checked their account balance

The study specifies how often participants checked their account balances on a weekly schedule as follows:

Table 3.11: Portrays how often respondents checked their bank balance

Weekly check-ups	Frequency	Percentage (%)
Less than once a week	70	28.0
1-3 times a week	90	36.0
Several times a week	20	8.0
Once a day	56	22.4
Several times a day	14	5.6
Total	**250**	**100**

Source: Primary data

Table 3.11 asserts that 28.0% of the respondents checked their accounts less than once a week, 36.0% checked them 1-3 times a week, 8.0% checked them several times a week, 22.4% checked them once a day and 5.6% checked them several times a day to find out the status of their accounts.

3.8.2.12. Factor Analysis of Mobile Banking Activities

Factor analysis is an assumption that the measured constructs can be reduced to less latent constructs with the same variance. It gathers constructs into clusters to be easily

comprehended. Factor analysis is implemented on 30 elements of the questionnaire based on 250 respondents. It reveals the factor loadings, mean and S.D of the elements. Furthermore, Kaiser-Meyer Olkin (KMO) measure is applied to evaluate how appropriate the data is for Factor Analysis. Moreover, Bartlett's Test of Sphericity is executed to measure whether the constructs are related and fit for the analysis as displayed below:

Table 3.12: Portrays the Factor Analysis of Mobile Banking Activities

KMO (Kaiser-Meyer-Olkin Measure) of Sampling Adequacy = 0.831
(Bartlett's Test of Sphericity) Approx. Chi-Square ($\chi 2$) = 612.227
Df = 406
Sig. = 0.000

Factors	F. Loadings	Mean	S.D
Perceived Ease of Use			
Undertaking mobile banking activities is easy and simple to me	0.774	3.03	1.054
Mobile banking activities take less time	0.732	3.40	0.841
Mobile banking is less frustrating. Access codes are easily remembered	0.523	3.09	1.051
Mobile banking is clear and understandable	0.675	2.96	1.173
Operating mobile banking apps needs less mental effort	0.796	3.03	1.043
I can use mobile banking without anyone's help	0.632	2.89	1.204
I find mobile banking activities comfortable to conduct	0.670	3.06	1.070
I can access mobile banking on my phone and make a transaction	0.771	2.69	1.048
Perceived Usefulness			
Mobile banking improves my performance when banking	0.792	2.71	1.430
Mobile banking is convenient for me to do my banking activities	0.671	2.74	1.380
Mobile banking apps help me finish banking activities faster	0.705	2.66	1.391
Mobile banking apps increase quality of banking transactions	0.959	2.62	1.390
Carrying out mobile banking activities makes me a modern customer	0.646	3.12	1.070
Mobile banking makes my transactions easier	0.501	3.06	1.167
Mobile banking is not substituted by other banking methods	0.464	2.80	1.203
Attitude			
Undertaking mobile banking activities is a good idea	0.795	3.18	1.281
My attitude towards mobile banking activities is favorable	0.861	2.96	1.383
I think undertaking mobile banking activities is beneficial to me	0.649	2.80	1.152
I like the idea of carrying out mobile banking activities	0.584	2.88	1.281
Undertaking mobile banking activities would be pleasant	0.715	2.86	1.106
I am drawn to carry out mobile banking activities	0.675	2.92	1.148
Behavioural Intention			
I will frequently use mobile banking services in the future	------	------	------
I will strongly recommend others to carry out mobile banking activities	0.605	2.75	1.177
I have interest in mobile banking activities	0.732	3.16	1.319
I plan to utilize mobile banking apps	0.836	2.87	1.324
May be, I'll engage in mobile banking activities in future	0.766	3.09	1.187
I am determined to indulge in mobile banking activities	0.548	3.06	1.232
Customer Loyalty			
I am likely to recommend my bank to friends or family	0.902	2.68	1.134
I am not likely to switch to another bank	0.871	2.73	1.150
If I had no bank account yet, I would still choose to open one with my current bank	0.813	2.96	1.259

Extraction method: Principal Component Analysis. Rotation method: Varimax with Kaiser Normalization.

Source: Primary data

Table 3.12 exposes KMO as 0.831 which is >0.7 thereby proving that the data is fit for factor analysis. Bartlett's Test of Sphericity is 6120.227, $p<0.000$ which marks the relationship between the variables and indicates that they are appropriate for factor analysis. Factor analysis relies on a rotation technique of varimax to measure five

components. During this analysis, one element "I will frequently use mobile banking services in the future" is excluded as it has a high stand-alone value.

3.8.2.13.1. Total Variance Explained

The Total Variance Explained mentions the total variance of the constructs for all individual principal components.

Table 3.13: Portrays the Total Variance Explained of Factor Analysis

Components	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative	Total	% of Variance	Cumulative %
1	10.691	36.867	36.867	4.370	15.071	15.071
2	2.800	9.654	46.521	3.625	12.501	27.572
3	2.436	8.399	54.920	3.490	11.033	39.605
4	1.914	6.600	61.520	3.402	11.730	51.335
5	1.669	5.754	67.274	3.343	11.527	62.862
6	1.172	4.043	71.317	2.452	8.454	71.317

Extraction Method: Principal Component Analysis.
Source: Primary data

Table 3.13 exposes the eigenvalues above 1 and constitutes six components with a total variance of 71.317%. This variance is more than 70% which is the limit for most research therefore, marking it appropriate for the analysis.

3.8.2.14. Evaluation of the Hypotheses

H_{6a}: Users' gender impacts their attitude to carry out Mobile Banking Activities.

When evaluating H_{6a}, Kolmogorov-Smirnov and Shapiro-Wilk tests are implemented to see if the data of the users' gender fits a normal distribution.

Table 3.14: Portrays the Test of Normality for the users' gender

	Kolmogorov-Smirnov a			Shaprio-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Gender	0.142	250	0.200	0.950	250	0.251

Source: Primary data

Table 3.14 declares Kolmogorov-Smirnov's p value as 0.200 and Shapiro-Wilk's p value as 0.251 which are >0.05 thus elaborating that the data of the users' gender significantly lies within a normal distribution.

To understand if gender has any effect on the attitude to carry out mobile banking activities and whether the means of males and females differ, an Independent sample T-test is implemented as displayed.

Table 3.15: Illustrates the impact of the users' gender on their attitude to carry out Mobile Banking Activities

Gender	N	$\bar{x}$	S.D	T	F	P
Attitude Males	140	17.0571	5.38553	-1.815	0.340	0.561
Females	110	18.2636	4.99114	-1.832		

Source: Primary data

Table 3.15 verifies that the mean and S.D of both males and females are so close to one another with p-value 0.561 which is >0.05 hence insignificant. Therefore, users' gender has no impact on their attitude to carry out Mobile Banking Activities.

H_{6b}: Users' age influences their attitude to carry out Mobile Banking Activities.

When evaluating H_{6b}, Kolmogorov-Smirnov and Shapiro-Wilk tests are implemented to find out if the data of the users' age fits a normal distribution.

Table 3.16: Portrays the Test of Normality for the users' age

	Kolmogorov-Smirnov a			Shaprio-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Age	0.275	250	0.119	0.848	250	0.117

Source: Primary data

Table 3.16 declares Kolmogorov-Smirnov's p value as 0.119 and Shapiro-Wilk's p value as 0.117 which are >0.05 hence elaborating that the data for users' age significantly lies within a normal distribution.

To further assess whether users' age groups have equal variances, a Homogeneity test is performed.

Table 3.17: Portrays the test of Homogeneity for the impact of the users' age on their attitude to undertake Mobile Banking Activities

Levene Statistic	Df 1	Df 2	Sig.
0.226	3	246	0.878

Source: Primary data

Table 3.17 verifies that there is a significance of 0.878, which is >0.05 therefore it is homogeny meaning that the variances of the age groups are equal. This necessitates

one-way Anova test to determine if the means of more than two independent groups differ. It ascertains whether H_{6b} should be relied on or not as illustrated below:

Table 3.18: Portrays the Anova test analysis for the influence of the users' age on their attitude to carry out Mobile Banking Activities

	Sum of Squares	Df	Mean	F	P
Between groups	136.586	3	45.529	1.672	0.174
Within groups	6699.978	246	27.236		
Total	6836.564	249			

Source: Primary data

Table 3.18 verifies that there are no significant variances between the means of the age groups as 0.174 exceeds 0.05 therefore, implying that H_{6b} is not supported.

H_{6c}: Users' occupations affect their attitude for carrying out Mobile Banking Activities.

When evaluating H_{6c}, Kolmogorov-Smirnov and Shapiro-Wilk tests are implemented to see if the data of users' occupation fits a normal distribution.

Table 3.19: Portrays the Test of Normality for the users' occupation

	Kolmogorov-Smirnov a			Shaprio-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Occupation	0.129	250	0.162	0.952	250	0.137

Source: Primary data

Table 3.19 mentions Kolmogorov-Smirnov's p value as 0.162 and Shapiro-Wilk's p value as 0.137 which are >0.05 thus elaborating that the data for users' occupation significantly lies within a normal distribution.

To further evaluate whether the categories of users' occupation have equal variances, a Homogeneity test is performed.

Table 3.20: Portrays the Test of Homogeneity for the influence of the users' occupation on their attitude to carry out Mobile Banking Activities

Levene Statistic	Df 1	Df 2	Sig.
0.082	3	246	0.970

Source: Primary data

Table 3.20 verifies that there is a significance of 0.970, which is >0.05 therefore it is homogeny therefore the variances of the users' occupation groups are equal.

This necessitates one-way Anova test to determine if the means of more than two independent groups differ as displayed.

Table 3.21: Portrays the Anova Test Analysis for the impact of the users' occupation on their attitude to carry out Mobile Banking Activities

	Sum of Squares	Df	Mean	F	P
Between groups	170.969	5	34.194	1.252	0.286
Within groups	6665.595	244	27.318		
Total	6836.564	249			

Source: Primary data

Table 3.21 verifies that there are no distinction between the groups as 0.286 exceeds 0.05 hence stressing that H_{6c} is not agreed upon.

H_{6d}: Users' education impacts their attitude to carry out Mobile Banking Activities.

When evaluating H_{6d}, Kolmogorov-Smirnov and Shapiro-Wilk tests are implemented to find out if the data of users' education fits a normal distribution.

Table 3.22: Portrays the Test of Normality for the users' education

	Kolmogorov-Smirnov a			Shaprio-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Education	0.279	250	0.157	0.881	250	0.272

Source: Primary data

Table 3.22 declares Kolmogorov-Smirnov's p value as 0.157 and Shapiro-Wilk's p value as 0.272 which are >0.05 hence elaborating that the data for users' education significantly lies within a normal distribution.

To further assess whether the categories of users' education have the same variances, a Homogeneity test is performed.

Table 3.23: Portrays the Test of Homogeneity for the impact of the users' education on their attitude to carry out Mobile Banking Activities

Levene Statistic	Df 1	Df 2	Sig.
3.114	5	244	0.010

Source: Primary data

Table 3.23 verifies that there is a significance of 0.010, which is <0.05 therefore it is not homogeny hence the variances of education are not equal.

This necessitates the Welch and Brown-Forsythe test to determine if the means of users' education are equal. This test ascertains whether the hypothesis should be relied on or ignored as illustrated below:

Table 3.24: Portrays the Welch and Brown-Forsythe tests for the influence of the users' education on their attitude to carry out Mobile Banking Activities

Attitude	Statistics	Df1	Df2	Sig.
Welch	1.395	5	73.104	0.236
Brown-Forsythe	1.314	5	157.387	0.261

Source: Primary data

Table 3.24 verifies that there are no significant variances between the means of the education groups as both p values exceed 0.05 therefore, implying that H_{6d} is not supported.

The rest of the hypotheses are tested using the Regression analysis to ascertain a relationship between Mobile Banking Activities and Technology Acceptance Models and Theories. This analysis is conducted at two levels; the 99% as the high level and 95% as the lower level with its results demonstrated below:

H_{1a}: Perceived Ease of Use influences Perceived Usefulness of carrying out Mobile Banking Activities.

Table 3.25: Portrays the correlation between Perceived Ease of Use and Perceived Usefulness of carrying out Mobile Banking Activities

R	R Square	Adjusted R	Standard Error
0.709	0.502	0.500	4.54761

Source: Primary data

Table 3.25 indicates R as 0.709, Regression square is 0.502, adjusted R square is 0.500 and standard error of estimate is 4.54761. This expresses that a 50.2% change in perceived Usefulness occurs due to perceived ease of use whereas 49.8% attributes to other constructs.

Additionally, this analysis presents Anova test to measure any variances in the means of perceived ease of use and perceived usefulness of carrying out Mobile Banking Activities as seen here:

Table 3.26: Portrays the Anova Test for the influence of Perceived Ease of Use on Perceived Usefulness of carrying out Mobile Banking Activities

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	5178.007	1	5178.007	250.378	0.000[b]
Residual	5128.829	248	20.681		
Total	10306.836	249			

Source: Primary data

Table 3.26 asserts that at 95% confidence level and the 5% significant level, F is computed at 250.378 while p value=0.000 which signifies that the variables are authentic for the research. It also confirms the existence of a statistical relationship between perceived ease of use and perceived usefulness.

Linear regression analysis is done to confirm a correlation between perceived ease of use and perceived usefulness of carrying out Mobile Banking Activities (MBA) in Kampala province as displayed:

Table 3.27: Portrays the Regression Analysis Coefficients for Perceived Ease of Use and Perceived Usefulness

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	β	Std. Error	Beta		
(Constant)	2.370	1.133		2.091	0.038
Perceived Ease of Use	0.719	0.045	0.709	15.823	0.000

Source: Primary data

Linear regression analysis ascertains a relationship between perceived ease of use and perceived usefulness by basing on the equation below:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \varepsilon}$$
$$\mathbf{Y = 2.370 + 0.719 X_1 + \varepsilon}$$

Where; β_0 = Constant of regression

ε = Standard error

β_1 = Coefficient of Independent variable

Y = Dependent variable: Perceived usefulness (PU)

X_1 = Independent variable: Perceived ease of use (PEoU)

Considering the regression equation above, the dependent variable, PU is constant at 2.370 when the Independent variable, PEoU is constant at zero. Regression analysis

asserts that assuming independent variable is constant at zero, an increase in PEoU declares a 0.719 rise in PU.

At 95% confidence rate and 5% significant rate, PEoU and PU have significant rates of 0.038 and 0.000 respectively thus supporting H_{1a}.

H_{1b}: Perceived Ease of Use affects client loyalty to carry out mobile banking activities.

Table 3.28: Portrays the relationship between Perceived Ease of Use and Client Loyalty to carry out Mobile Banking Activities

R	R Square	Adjusted R	Standard Error
0.336	0.113	0.109	3.06977

Source: Primary data

Table 3.28 verifies that R is 0.336, Regression square is 0.113, adjusted R square is 0.109 and standard error of estimate is 3.06977. Moreover, it expresses that a change of 11.3% in client loyalty is attributed to perceived ease of use while the rest is due to other aspects.

Furthermore, this analysis relies on Anova test to elaborate any variations in the means of perceived ease of use and client loyalty to carry out mobile banking activities as seen here:

Table 3.29: Portrays the Anova Test for the effect of Perceived Ease of Use on Client Loyalty to carry out Mobile Banking Activities

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	297.114	1	297.144	31.529	0.000[b]
Residual	2337.030	248	9.424		
Total	2634.144	249			

Source: Primary data

Table 3.29 asserts that at 95% confidence level and the 5% significant level, F is computed at 31.529 while p value=0.000 hence signifying that the variables are authentic for the research. It also confirms the existence of a statistical relationship between perceived ease of use and client loyalty.

Linear regression analysis is done to confirm a correlation between perceived ease of use and client loyalty to carry out mobile banking activities (MBA) in Kampala province as displayed:

Table 3.30: Portrays the Regression Analysis Coefficients for Perceived Ease of Use and Client Loyalty

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	β	Std. Error	Beta		
(Constant)	4.213	0.765		5.507	0.000
Perceived Ease of Use	0.172	0.031	0.336	5.615	0.000

Source: Primary data

Linear regression analysis ascertains a relationship between perceived ease of use and client loyalty by basing on the equation below:

$$Y= \beta_0 + \beta_1 X_1 + \varepsilon$$
$$Y= 4.213+0.172X_1 + \varepsilon$$

Where; β_0 = Constant of regression

ε = Standard error

β_1 = Coefficient of Independent variable

Y = Dependent variable: Client loyalty

X_1 = Independent variable: Perceived ease of use (PEoU)

Considering the regression equation above, the dependent variable; client loyalty is constant at 4.213 when the Independent variable; PEoU is constant at zero. Regression analysis declares that assuming independent variable is constant at zero, an increase in PEoU marks a 0.172 rise in client loyalty.

At 95% confidence rate and 5% significant rate, PEoU and client loyalty have significant rates of 0.000 and 0.000 respectively thus supporting H_{1b}.

H_{2a}: Perceived usefulness has an impact on behavioural intention to undertake mobile banking activities.

Table 3.31: Portrays the relationship between Perceived Usefulness and Behavioural Intention to undertake Mobile Banking Activities

R	R Square	Adjusted R	Standard Error
0.417	0.174	0.171	5.28522

Source: Primary data

Table 3.31 verifies that R is 0.417, Regression square is 0.174, adjusted R square is 0.171 and standard error of estimate is 5.28522. Moreover, it expresses that a change of 17.4% in behavioural intention is attributed to perceived usefulness while the rest is due to other constructs.

Besides, this analysis relies on Anova test to elaborate any variations in the means of perceived usefulness and behavioural intention to carry out mobile banking activities as seen here:

Table 3.32: Portrays the Anova Test for the effect of Perceived Usefulness on Behavioural Intention to undertake Mobile Banking Activities

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1458.877	1	1452.877	52.227	0.000[b]
Residual	6927.523	248	27.934		
Total	8236.400	249			

Source: Primary data

Table 3.32 asserts that at 95% confidence level and the 5% significant level, F is computed at 52.227 while p value=0.000 which signifies that the constructs are fit for the research. It also confirms the existence of a statistical relationship between perceived usefulness and behavioural intention.

Linear regression analysis is done to confirm a correlation between perceived usefulness and behavioural intention to carry out mobile banking activities (MBA) in Kampala province as displayed:

Table 3.33: Portrays the Regression Analysis Coefficients for Perceived Usefulness on Behavioural Intention

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	β	Std. Error	Beta		
(Constant)	10.662	1.079		9.877	0.000
Perceived Usefulness	0.376	0.052	0.417	7.227	0.000

Source: Primary data

Linear regression analysis ascertains a relationship between perceived usefulness and behavioural intention by relying on the equation below:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$
$$Y = 10.662 + 0.376 X_1 + \varepsilon$$

Where; β_0 = Constant of regression

ε = Standard error

β_1 = Coefficient of Independent variable

Y= Dependent variable: Behavioural intention

X_1 = Independent variable: Perceived usefulness (PU)

Considering the regression equation above, the dependent variable; behavioural intention is constant at 10.662 when the independent variable; PU is constant at zero. Regression analysis asserts that assuming independent variable is constant at zero, an increase in PU causes a rise of 0.376 in behavioural intention.

At 95% confidence rate and 5%, significant rate; PU and behavioural intention have significant rates of 0.000 and 0.000 respectively thus supporting H_{2a}.

H_{2b}: Perceived usefulness affects client loyalty to carry out mobile banking activities.

Table 3.34: Portrays the relationship between Perceived Usefulness and Client Loyalty to undertake Mobile Banking Activities

R	R Square	Adjusted R	Standard Error
0.359	0.129	0.126	3.04144

Source: Primary data

Table 3.34 verifies that R is 0.359, Regression square is 0.129, adjusted R square is 0.126 and standard error of estimate is 3.04144. Moreover, it expresses that a 12.9% change in client loyalty is attributed to perceived usefulness while the rest is due to other aspects.

Besides, this analysis relies on Anova test to display any variations in the mean of perceived usefulness and client loyalty to carry out mobile banking activities as seen here:

Table 3.35: Portrays the Anova Test for the effect of Perceived Usefulness on Client Loyalty to carry out Mobile Banking Activities

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	340.052	1	340.052	36.761	0.000[b]
Residual	2294.092	248	9.250		
Total	2634.144	249			

Source: Primary data

Table 3.35 asserts that at 95% confidence level and the 5% significant level, F is computed at 36.761 while p value=0.000 hence signifying that the constructs are

appropriate for the research. It also confirms the existence of a statistical relationship between perceived usefulness and client loyalty.

Linear regression analysis is done to confirm a correlation between perceived usefulness and client loyalty to carry out mobile banking activities (MBA) in Kampala province as displayed:

Table 3.36: Portrays the Regression Analysis Coefficients for Perceived Usefulness on Client Loyalty

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	β	Std. Error	Beta		
(Constant)	4.787	0.621		7.706	0.000
Perceived Usefulness	0.182	0.030	0.359	6.063	0.000

Source: Primary data

Linear regression analysis ascertains a relationship between perceived usefulness and client loyalty by relying on the equation below:

$$Y= \beta_0 + \beta_1 X_1 + \varepsilon$$
$$Y= 4.787 + 0.182 X_1 + \varepsilon$$

Where; β_0 = Constant of regression

ε = Standard error

β_1 = Coefficient of Independent variable

Y = Dependent variable: Behavioural intention

X_1= Independent variable: Perceived usefulness (PU)

Considering the regression equation above, the dependent variable; client loyalty is constant at 4.787 when the independent variable; PU is constant at zero. Regression analysis declares that assuming independent variable is constant at zero, an increase in PU causes a rise of 0.182 in client loyalty.

At 95% confidence rate and 5%, significant rate; PU and client loyalty have significant rates of 0.000 and 0.000 respectively thus supporting H_{2b}.

3.8.2.15. Results from analyzing the hypotheses

This section presents which hypotheses are accepted or rejected:

Table 3.37: Illustrates the Accepted and Rejected Hypotheses

Hypotheses	Results
H_1: Perceived Ease of Use impacts attitude and BI to carry out Mobile Banking Activities.	Accepted
H_{1a}: Perceived Ease of use affects Perceived Usefulness of Mobile Banking Activities.	Accepted
H_{1b}: Perceived Ease of use affects Client Loyalty to carry out Mobile Banking Activities.	Accepted
H_2: Perceived Usefulness greatly affects Attitude to carry out Mobile Banking Activities.	Accepted
H_{2a}: Perceived Usefulness impacts Behavioural Intention to undertake Mobile Banking.	Accepted
H_{2b}: Perceived Usefulness affects Client Loyalty to carry out Mobile Banking Activities.	Accepted
H_3: Attitude impacts Behavioural Intention to carry out Mobile Banking Activities.	Accepted
H_4: Behavioural intention influences Mobile Banking Activities.	Accepted
H_5: Customer Loyalty greatly influences Mobile Banking Activities.	Accepted
H_6: Users' demographic features affect their attitude to carry out Mobile Banking Activities:	
H_{6a}: Users' gender impacts their attitude to carry out Mobile Banking Activities.	Rejected
H_{6b}: Users' age influences their attitude to carry out Mobile Banking Activities.	Rejected
H_{6c}: Users' occupation affects their attitude to carry out Mobile Banking Activities.	Rejected
H_{6d}: Users' education impacts their attitude to carry out Mobile Banking Activities.	Rejected

Source: Primary data

Table 3.37 verifies that the hypotheses are fully supported apart from H_6 which asserts that there is no significant relationship between the users' gender, age, occupation and education and their attitude to carry out MBA.

3.9. Arguments, Conclusions and Recommendations of the Study

This segment highlights; the summary of the study, arguments on the hypotheses, conclusions of the study, recommendations of the study and suggestions for future research:

3.9.1. Summary of the Study

Technology is altering many habits of consumers who can now choose to apply the inventions. Therefore, this survey ascertains the level at which clients undertake mobile banking activities in Uganda. It aims at ascertaining the relationship between mobile banking activities and technology acceptance models (TAM) and theories especially TAM 1 and Reasoned Action Theory basing on Kampala in Uganda as the case study. It relies on six hypotheses that are dıscussed above. It applies a descriptive research method on a target population of 250 respondents who comprise of banking and non-banking; government employees, private sector employees, students and other citizens ranging from 21 years and above who are living in Kampala province. It utilizes

secondary data and primary data which was gathered through questionnaires that have been distributed in Kampala and some shared online to access the respondents. The data is evaluated by applying factor analysis, normality test, linear regression analysis, homogeneity tests, independent T-test, Anova analysis and Welch and Brown Forsythe test with the results displayed in the tables above.

3.9.2. Arguments on the Hypotheses

The arguments on the hypotheses concentrate on discovering a relationship between mobile banking activities (MBA) and technology acceptance models (TAM) and theories basing on Kampala province in Uganda. Though various theories and models are mentioned, this research majorly puts all attention on TAM and some constructs such as; perceived ease of use, perceived usefulness, attitude, behavioural intention, client loyalty and demographic features as highlighted below:

Perceived ease of use (PEoU) is a construct which impacts attitude and behavioural intention to carry out MBA. According to the survey, the argument that utilizing mobile banking apps needs less mental effort exposed a factor loading of 0.796 thereby confirming a strong correlation between PEoU and MBA. This is in line with a research on 217 participants which confirmed that PEoU influenced mobile banking with a coefficient of 0.75. Moreover, an increase in the acceptance of mobile banking made monetary institutions to put much attention on the simplicity of the inventions. On the other hand, clients in Turkey believed that undertaking MBA required no intelligence or effort (Monzur, 2017, p. 40). Furthermore, a survey on 150 participants asserted that inventions were accepted if they could be quickly operated (Teo, 2013, p. 83). A resembling study mentioned a correlation between PEoU and mobile banking. Mobile banking must be simple so that the number of its users is enhanced. Therefore, phone manufacturers have been encouraged to produce economic and favourable gadgets that improve the clients' interface with monetary institutions (Joel & Roope, 2014, p. 15). Additionally, monetary institutions must conduct programs to build trust in the utilization of mobile banking. This is because the rate of accepting mobile banking technology

increases once it is safe to apply. Since the elderly clients hardly indulge in utilizing innovations, advertisements that express how old people could enjoy carrying out MBA should be done to boost such activities among the elderly population (Simge, 2008, p. 58). Though PEoU is persuasive, other constructs too influence the utilization of mobile banking. For instance, self-efficacy impacts MBA as people with more self-efficacy have much interest in innovations. This is proved by a survey in Iran which expresses that people with self-efficacy accept inventions very fast (Venkatesh et al., 2003, p. 439). On the other hand, income too impacts the utilization of mobile banking because 48% of individuals earn less income which slows their acceptance of inventions. Therefore, cutting down banking charges could solve this problem (Teo, 2013, p. 83). Another survey highlights that expenses incurred on inventions prevent people from accepting them regularly as most societies face higher expenditures compared to their income earnings (Mohammad, 2015, p. 46).

The assumption that PEoU influences PU expresses that a 50.2% change in perceived usefulness occurs due to perceived ease of use. This is also evidenced by a survey on the impact of perceived usefulness, perceived ease of use and perceived enjoyment on online shopping which relied on 150 participants. It declared that perceived ease of use contributes to 61% changes in perceived usefulness (T. Ramayah & Joshua, 2003, p. 13). A resembling study on perceived usefulness, perceived ease of use and user acceptance of information technology indicates that perceived ease of use ascertains the use of technology (Davis, 1989). Similarly, ease of use of a certain website enhances the utilization of e-shopping (Gefen et al., 2001).

The assumption that PEoU influences client loyalty asserts that a change of 11.3% in client loyalty is attributed to perceived ease of use. Another study emphasizes the effect of perceived ease of use on client e-loyalty (Winnie Poh-Ming et al, 2014, p. 482). Moreover, a research on internet ticketing in a not for profit service organization indicates that ease of use influences e-loyalty (Olson & Boyer, 2005). A study on the influence of the quality of the hotel website design, perceived ease of use and perceived usefulness on loyalty supports that perceived ease of use has a significant impact on loyalty (K. A.

Bahari, et al, 2018, p. 708). Another survey on factors affecting customer satisfaction and loyalty in online auctioning in Taiwan indicates that PEoU affects client loyalty to utilize online auction websites (Chien-Chung Tu et al, 2012, p. 649).

The survey clarifies that perceived usefulness (PU) greatly affects the attitude to undertake MBA whereby most respondents agreed that utilizing mobile banking apps increase the quality of banking. A similar research concerned with the effect of PU on mobile banking mentions that PU enhances the attitude to utilize mobile banking (Shaikh & Karjaluoto, 2015, p. 154). A related study emphasizes that utilizing mobile systems is based on how much people understood them. Therefore, high PU reflects higher attitude to use the system (Mohammad, 2015, p. 43). A uniform research emphasizes that enhancing PU requires the monetary organizations to examine the client needs, avail high quality services to boost their attitude and eliminate high costs of usage (Simge, 2008, p. 58). Moreover, a similar research verifies that PU impacts the attitude to utilize mobile banking in Turkey. It elaborates that clients believe that inventions can advance their work operations since much time is not wasted on the transactions (Akturan Ulun, 2012, p. 4). On the contrary, a varying survey evaluating the acceptance of inventions by teachers in Hong Kong administered a quantitative technique on a sample size of 185 primary level teachers. It declares that PU does not impact the teachers' attitude to accept inventions (Gary Wong, 2016).

The assumption that PU influences BI asserts that a change of 17.4% in behavioural intention is attributed to perceived usefulness. Besides, a research examining the impact of perceived usefulness and ease of use on behavioural intention to use an enterprise resource planning system analyzed data gathered from 571 participants and concluded that perceived usefulness influences the intention to use inventions (Kwasi, 2007). A resembling survey about the effects of computer self-efficacy and technology acceptance model on behavioural intention to utilize internet banking systems of young users focuses on 222 participants from Malaysia University. It declares that perceived usefulness significantly influences intention to use internet banking (Mohd Shoki et al, 2012, p. 451).

The assumption that PU influences client loyalty declares that a 12.9% change in client loyalty is caused by perceived usefulness. Moreover, research on the effects of technology acceptance models on customer e-loyalty and e-satisfaction mentions that PU correlates with customer e-loyalty (Winnie Poh-Ming et al, 2014, p. 482). A similar survey verifies that perceived usefulness affects client loyalty to utilize e-shopping (Shih, 2004). Another research indicates that perceived usefulness affects loyalty to utilize the mobile instant messaging. Instant messaging is a program used in sending texts over the internet whereas mobile instant messaging is used to send texts over mobile devices (Oghuma, et al., 2015). A resembling study concludes that loyalty to utilize mobile instant messaging is impacted by perceived usefulness since clients believe that it is useful (Theresa & Adrian, 2016, p. 6). Furthermore, a survey on LINE, an application used to connect clients to businesses indicates that clients are loyal to utilizing LINE because they apply it in their daily operations (Yoon, Jeong, & Rolland, 2015).

The assumption that attitude impacts behavioural intention to undertake MBA has a high score thus agreeing that the respondents' attitude enhances their intent to carry out mobile banking activities. This survey is related to a study on mobile banking loyalty in Iran which reveals a correlation between attitude and intention to utilize mobile banking (Mohammad, 2015, p. 41). Another research on the adoption of mobile banking services in Turkey expresses a relationship between attitude and BI to utilize mobile banking as attitude attributes 66.0% to the acceptance of inventions (Thakur, 2013, p. 27). Also, attitude enhances the clients' intentions to utilize web sites (Verhagen & Van Dolen, 2007). However, a differing survey discusses that though attitude is expected to correlate with mobile banking, varying findings verify that there is no correlation between them. It suggests that monetary institutions must specify individual features necessary for adopting mobile banking. They could use famous people in marketing to boost the utilization of mobile banking. On the other hand, mobile banking could be influenced by the word of mouth technique in conferences and sports events that are suitable areas. This may also be through the use of sponsors to fund gift-giving programs in form of mobile gadgets and winning cash prizes to strengthen the usage of mobile banking (Simge, 2008, p. 55).

Behavioural intention (BI) influences MBA as evidenced by most respondents who agree that they plan to utilize mobile banking with the highest score of 0.836 hence indicating that high BI leads to more MBA. Moreover, a study on Yemen asserts that 87% of the participants intend to utilize mobile banking since it saves time (Xin Luo et al., 2010, p. 232). A related research emphasizes that BI accelerates the possibility of accepting inventions. Here, technology acceptance models (TAM) and theories rely on the actual usage to assess the time and frequency of utilizing innovations. However, realistically appraising BI is challenging because the relationship between BI and utilizing innovations is rendered by theoretical and empirical evidence (Bagozzi, 2007, p. 253). A related study in Malaysia confirms that users regard the benefits of mobile banking before applying it (Xin Luo et al., 2010, p. 233). Moreover, BI is more connected with the utilization of inventions thus emphasizing its relationship with MBA. When forming BI, people first aim at accepting mobile banking, devising ways of applying it then they begin to utilize it. BI has more connection with trust, recognition and internal constructs. Therefore, to enhance BI, monetary institutions can render personalized services and safety to enlarge their market share. They might as well implement diverse schemes for example; reduce internet costs and promotions (Simge, 2008, p. 55).

The study declares that client loyalty influences MBA as participants highly recommend their bank to friends or family and are not likely to switch to other financial institutions. This hypothesis is supported by a survey on seventy-eight chief managers from twenty-six monetary institutions in Kenya which confirms a relationship between mobile phone banking and client loyalty with a p-value <0.05 (Nguthuku, 2018, p. 34). Another survey in Bangladeshi agrees that loyalty impacts MBA since clients are dedicated to re-purchasing their desired services regularly (Xin Luo et al., 2010, p. 230). Aside from loyalty, personal innovativeness and subjective norm impact the acceptance of mobile banking. Personal innovativeness is the clients' choice to utilize new inventions to improve their capabilities (Chian-Son Yu, 2012, p.109). Furthermore, subjective norm is ascertained by communal effects and it contributes to the acceptance of inventions (Mohammad, 2015, p. 46).

The assumption that users' demographic features; gender, age, occupation and education affect their attitude to carry out MBA reveals no significant variances. This further highlights that all users indicate the same level of undertaking MBA without differing in age, gender, occupation or education. This is supported by research on shopping behaviour via the internet within the context of technology acceptance model. It examines the academic and administrative staff at İnönü University hence reflecting that their attitude towards accepting online shopping does not differ according to their occupations (Mustafa, 2020, p. 83). Moreover, a survey analysing the relationship between demographic features and consumers' attitudes towards online shopping declares that the clients' occupations do not affect their attitudes to use online shopping (Özgüven, 2011, p. 54). A survey on 2104 Spanish people who relied on the internet verified that gender does not affect their attitude to utilize mobile commerce (Bigne, et al, 2005). A similar study on 477 students in India summarised by saying that there are no gender variations towards the attitude to utilize electronic learning (Suri & Sharm, 2013). Furthermore, when analyzing 200 people who applied internet banking in Malaysia, gender variations are found to be insignificant (Foon & Fah, 2011). Another survey also agrees that gender does not impact the adoption of internet banking (Ainin et al., 2005). While evaluating if gender variations ascertain the attitude to utilize technology, the t-tests expressed no significant gender variations (Connie et al, 2006, p. 125). A study concerned with the acceptance of technology by uniform police forces mentioned no differences between the two age groups among these officers. This means that the old and young police officers equally accept technology to run police errands (Erkki Kurkinen, 2013, p. 476). Additionally, Rogers the founder of innovation diffusion theory quotes that the age of early adopters in a social system does not vary much from that of the later adopters (Chian-Son Yu, 2012, 109). A survey on the role of education in technology use in Canada asserts that education does not impact the attitude to utilize technology (W. Craig, 2012, 18).

3.9.3. Conclusions of the Study

The survey is carried out by distributing questionnaires in Kampala province to a sample size of 250 respondents who comprise both banking and non-banking clients with differing occupations such as; government employees, private sector employees, students and other citizens in Kampala. Moreover, it mentions a response rate of 83.3% as sufficient for drafting accurate conclusions. Its results reflect that 64% (24+40) participants are <=40 years (as in table 3.5) whereas 68.8% (39.2+29.6) respondents have engaged in MBA for >=1 year (check out table 3.8) hence exposing the existence of MBA in Uganda.

The study appraises the relationship between mobile banking activities (MBA) and technology acceptance models (TAM) and theories in Kampala thereby declaring the respondents' interest in carrying out MBA and the areas of concern to the responsible parties. It applies constructs such as; perceived ease of use (PEoU), perceived usefulness (PU), attitude, behavioural intention (BI), client loyalty and demographic features to learn the existing amount of MBA. Furthermore, it implements factor analysis, Anova, normality test, Welch and Brown-Forsythe test, homogeneity tests, independent T-tests and linear regression analyses to ascertain this relationship. These emphasize that PEoU, PU, attitude, BI and client loyalty are correlated with MBA whereas demographic features are not. Although the survey declares a relationship between MBA and TAM models and theories, TAM concentrates on the attributes of inventions. This exposes its inadequacy to center on people, institutions and communal settings related with the acceptance of inventions specifically mobile banking (Monzur, 2017, p. 40).

The research asserts the respondents' involvement and interest in MBA thereby revealing the critical areas to responsible parties. Nevertheless, it differs from other surveys that mostly focus on mobile banking users. It looks at both banking and non-banking users to showcase their rate of involvement. Moreover, this study concentrates on the influence of client loyalty on MBA while certain studies discussed the impact of mobile banking on loyalty. Furthermore, this study focuses on Uganda that most research on mobile banking ignores as they regularly centre on Kenya, South Africa and

West Africa. Additionally, this survey mentions both direct and indirect influence of the variables on mobile banking by demonstrating how they directly affect each other in respect to MBA though other studies indicate the direct impact they have on the utilization of mobile banking technology.

The assumption that PEoU impacts the attitude and BI to carry out MBA reveals that most respondents could carry out MBA on their phones. It is also evidenced that operating mobile banking apps needs less mental effort. However arguments for instance; mobile banking is less frustrating and its access codes are easily remembered; and mobile banking apps could be used without anyone's help, need improvement for PEoU to inflict a remarkable influence on MBA. A varying survey verifies that PEoU increases the acceptance of mobile banking in Makassar. To enhance PEoU, monetary institutions must render uncomplicated interfaces to raise the level of accepting inventions (Gary Wong, 2016). Furthermore, if monetary institutions enlighten the public on the significances of mobile banking while putting more focus on how uncomplicated it is, its level of acceptance can increase. These institutions must hold training sessions on why and how to carry out MBA to spread knowledge on their existence and value (Heijden, 2003, p. 548).

The assumption that perceived usefulness greatly impacts attitude to undertake MBA is confirmed. This reflects that mobile banking makes transactions easier hence enhancing the performance of monetary institutions and the quality of transactions. Furthermore, most respondents have undertaken MBA for more than one year hence proving their usefulness and efficiency. Nonetheless, improvements are required in areas where mobile banking is not substituted by other banking methods to enhance PU. A similar survey mentions the effects of PU on client perspectives regarding the acceptance of mobile banking. It emphasizes that mobile banking must be structured and formulated to render more worth (Joel & Roope, 2014, p. 15). Moreover, monetary organizations should formulate a structure to deal with any hardships encountered by clients and make their services more relevant. This structure must comprise of adjustments for example; mobile-tickets for transportation, automatic receipts to transmit funds at favourable costs,

online purchases, transmissions of funds, security, high-speed operations, better client interface, online structure to rectify errors and online guidelines for mobile banking (Mohammad, 2015, p. 46).

The assumption that attitude impacts BI to carry out MBA is supported by high scores in areas where; undertaking mobile banking activities is considered a good idea and; attitude towards mobile banking activities is favourable. However, the section where undertaking mobile banking activities is beneficial needs more attention to enhance the influence of attitude on BI to undertake MBA. Furthermore, attitude is revealed as a construct which is involved in the adoption models and theories. Attitude has a high connection with the acceptance of mobile banking and it highlights this correlation better in contrast to other constructs (Simge, 2008, p. 55). The attitude of non-banking members who are at the bottom of the pyramid could be generated from the perceived benefits of inventions. It could be enhanced if monetary organizations expose the benefits of such banking to build confidence and positive perspectives amongst the public. Attitude could be boosted by improving areas such as; rendering non-complex services, enhancing awareness and information concerning the utilization of inventions (Gary Wong, 2016).

The assumption that BI influences MBA is revealed by high scores of the argument on the respondents' plans to undertake MBA; their projected application of MBA; and intention to engage in mobile banking activities in future. But the arguments that they will frequently use mobile banking services in the future and; if they are determined to indulge in mobile banking activities received poor scores thus exposing the sectors that could enhance BI to carry out MBA. A resembling survey is administered to explore the constructs that guide students to accept mobile learning in East Africa. It implements the unified theory of acceptance and use of technology with an ambition to assess BI of students regarding their acceptance of mobile learning in East Africa. Moreover, it concentrates on eight hundred twenty-three students as a sample size from 5 higher learning organizations. It implements regression analysis to reveal the impact of BI on the acceptance of mobile learning in higher education of East Africa (Joel & Roope, 2014, p. 15). Another survey examines the role of task technology fit, attitude, self-efficacy,

subjective norm and BI in the acceptance of information technology by hotels in Hangzhou, China. It administers four hundred fifty-eight questionnaires and asserts that BI is positively related to the acceptance of information technology (Gary Wong, 2016).

The assumption that client loyalty greatly influences MBA is proved by the high scores of loyalty in areas; where participants suggest their monetary institutions to friends and families; where they confirmed that if they did not have bank accounts yet they would still choose to open one with their financial institutions and; where they were not likely to switch to other monetary organizations. All these emphasize the effect of loyalty on MBA. A survey about a correlation between mobile phone banking and loyalty in Kenya mentions the existence of a relationship between mobile phone banking and loyalty with $p<0.05$. Furthermore, it emphasizes that monetary institutions in Kenya should focus on client loyalty to intensify the utilization of mobile phone banking (Nguthuku, 2018, p. 37).

The assumption that users' demographic features in terms of gender, age, occupation and education affect their attitude to carry out MBA is rejected. Though normality tests and homogeneity tests declare agreeable results except for education, the outcome of one-way Anova tests and Welch and Brown-Forsythe tests reveal no significant variances in the mean as $P>0.05$ hence marking the hypotheses insignificant. Therefore, this area needs more attention to understand why such features reflect these reactions and if the mean from different parts of Uganda could vary. This agrees with a survey on fifty nine students in 6^{th} grade which ascertains if gender impacts their attitude to utilize technology. It relies on online questionnaires, one-one discussions, observations, secondary data and class work to reveal that the gender variations concerning attitude, the utilization of technology and beliefs are not effective thereby insinuating that gender does not influence the students' attitude to accept technology. Moreover, most males and females confirm that they do not find technology complicated (Connie et al, 2006). A different research emphasizes that the impact of gender's variations on the acceptance of internet banking is not statistically acceptable (DeBaillon & Rockwell, 2005). Besides, a survey evaluating the impacts of education on the workers' utilization of retail scanners

and industrial equipment suggests that there are negative effects of education on the utilizations of such inventions whereas other results show no impact at all as they do not vary from zero. A resembling study reveals that education does not influence the utilization of computer-controlled and computer-supported inventions in daily work operations (W. Craig, 2012, p. 16). Additionally, a survey concerned with the effects of socio-demographic features on the adoption of information communication technology (ICT) for diabetes self-care was administered in South Africa. South Africa has growing rates of diabetic cases and most of the people are not involved in the utilization of ICT. The survey relied on four hundred ninety seven participants and UTAUT model and linear regression thus declaring that occupations do not affect the utilization of ICT since values of R squared have no variations (Petersen F et al, 2020). Another study emphasizes that age variations do not impact the acceptance of online banking and therefore, age is not a crucial aspect that monetary institutions can base on to ascertain the success of internet banking (Mirza et al., 2009). Correspondingly, a study about the influence of demographic characteristics on the acceptance of e-government services applied TAM and assessed the data via SPSS. It reveals that age does not determine the acceptance of e-government services (Isaac & Jianing, 2018).

The assumption that perceived ease of use influences perceived usefulness reveals p value =0.000 hence insinuating the significance of hypothesis. Moreover, regression analysis emphasizes the correlation between PEoU and PU with a significance value of $p<0.05$. A related survey on the elements that ascertain BI to rely on online shopping agrees that PEoU is a determinant of PU. This depends on the category of the products since online shopping usually deals with accustomed items that have low risks and clients choose traditional shopping for garments and household goods that need physical contact. The PEoU of online invention and the level of satisfaction influence its utilization. People can rely on online shopping if the technology is easy and fun to operate. Such technology includes texting and making e-payments (Ramayah, Jantan & Aafaqi, 2003). A similar research about the aspects that influence students' BI to utilize internet banking was done in Indonesia since the level of internet usage has escalated with more people applying it

in almost all operations. It implemented BI, PU, PEoU, SN and experience as its constructs thus clarifying that PEoU and experience impact PU since students only utilize internet banking after assuming it is easy to operate and not just because it is useful. Therefore, PEoU helps to enhance their will to implement it (Kevin & Dwi, 2016). Correspondingly, a survey on how TAM strengthens e-loyalty and e-satisfaction revealed that PEoU affects PU of utilizing computer. It also motivates e-shoppers to indulge in more e-shopping since they find it easy to utilize. This is because PEoU entices clients to rely on the internet for all of their needs (Porter & Donthu, 2006). An additional research proved that PEoU forecasts people's utilization of e-government services (Isaac & Jianing, 2018).

The assumption that perceived ease of use influences client loyalty declares p-value as 0.000 meaning that there is a correlation between perceived ease of use and client loyalty since its significance value is less than 0.05. A research examining PEoU, PU, perceived value, image, client satisfaction and loyalty focuses on ninety participants who are clients of AK Car Rental in Badung Bali, Indonesia. It applies a purposive sampling technique and structural equation model to emphasize that PEoU and PU impacts client loyalty whereas perceived value does not. Also, PEoU, PU, image and perceived value affect client satisfaction (Putu Uge et al, 2018). Another survey examining the constructs that determine client satisfaction and loyalty to e-auctioning in Taiwan indicates that PEoU affects client loyalty through client satisfaction and trust for e-auctioning sites whereas, perceived control and enjoyment from shopping do not (Chien-Chung Tu, 2012, p. 649).

The assumption that perceived usefulness has an impact on behavioural intention reveals p value=0.000 thus insinuating the significance of the hypothesis. Moreover, regression analysis emphasizes the correlation between PU and BI with a significance value of $p<.05$. Likewise, a research about the effects of PU, PEoU, user involvement, argument for change and prior usage on BI to utilize enterprise resource planning (ERP) systems was administered. Its data was gathered online from five hundred and seventy one participants of an organization relying on ERP system. ERP system is applied by most organisations and it necessitates efficient usage for its benefits to be yielded otherwise

organizations may make losses since it is costly. The research implies that PU, PEoU and user involvement impacts BI to utilize ERP systems. It emphasizes that management should endeavour to enhance user expectations for individual relevance of inventions to grant the users success (Kwasi, 2007).

The assumption that perceived usefulness affects client loyalty asserts that the p-value is 0.000 meaning that there is an existing correlation between perceived usefulness and client loyalty since its significance value is less than 0.05. A survey analysed the loyalty of mobile instant messaging users and declared that perceived usefulness impacts loyalty (Zhou, T., & Lu, Y., 2011). Similarly, a survey on the interrelationships between perceived usefulness, service quality and loyalty to utilize electronic services reveals a correlation between perceived usefulness and loyalty (R. Naidoo & A. Leonard, 2007, p. 44). A corresponding research confirms that PU, trust and satisfaction impact client loyalty (Anshar & Naili, 2018, p. 240). A study joining TAM, Flow theory and Regulatory fit theory was done to explain the relevance of flow and comprehend its consequences and the earlier theories on e-loyalty and e-satisfaction. Flow theory is a positive experience and an essential aspect which clarifies clients' conducts in relation to computer-mediated surroundings. Whereas, Regulatory fit theory is a feeling of rightness. This survey revealed that PU, PEoU and flow impacted e-loyalty and e-satisfaction whereas, PU, PEoU and regulatory fit influenced flow. For clients to enjoy flow, firms should provide new opportunities to carter for their needs. Also, much time should be directed in discovering how flow is formed and its effects since not many researches concentrate on it (Chia-Lin, Cou-Chen & Mu-Chen, 2013).

3.9.4. Recommendations of the Study

Upon evaluating the correlation between mobile banking activities (MBA) and technology acceptance models (TAM) and theories, the research proposes the following suggestions:

Mobile banking is new in Uganda with hardly any surveys about it therefore much research should be done to highlight the relationship between MBA and TAM models and

theories in Uganda. Moreover, many studies are needed to equip monetary organizations, investors and the government with details about how much Ugandans are interested in innovations. This will direct them to the right steps that are necessary for reforms. Furthermore, it will assist investors to know their expected number of customers and how to expand the market shares.

The directors of monetary organizations are advised to avail capable skills that are necessary for managing inventions. They should concentrate on the constructs that examine communal aspects rather than direct attention to initiating new inventions only. Moreover, they should devise ways of evaluating more efficient constructs that are connected with the client and communal aspects such as; subjective norm, flexibility, perceived risk or image. These directors must also promote and make efforts to raise the rate of utilizing mobile banking technology. This can entice the public to welcome change through technology so that life is simpler.

Monetary organizations should apply improved communication schemes to retain the existing clients which will strengthen their survival and enhance MBA other than focus on the structures of items or services. They need to train appropriate personnel to interact with clients while delivering their desired requests accurately and on time. This is because mobile banking requires experience to raise the performance of financial institutions or else its benefits cannot be fulfilled.

Phone manufacturers are advised to render high quality yet fairly priced mobile gadgets and personal digital assistants to clients and improve their interface with monetary institutions. These assistants are palmtop computers that render electronic mails and internet connection. They make clients competent and be able to undertake MBA without any difficulties.

Monetary organizations must generate a conducive atmosphere to enhance the influence of loyalty on MBA. This can be done by spreading awareness about mobile banking and its merits to the users. Furthermore, since the study indicates that older people engaged in MBA at a low level in contrast to young ones, there is need for extra marketing

efforts to stimulate their engagement in MBA. Such efforts can increase the belief in the utilization of inventions and their user-friendliness.

The government and the Bank of Uganda must make favourable policies for monetary institutions to administer advanced finance methods. This will permit monetary institutions to encourage people to carry out MBA countrywide with attractive benefits attached for instance; free charges and safety. It can also enhance account holders by enticing many non-users to engage in MBA.

Extra care should be put on other districts in Uganda's rural areas in relation to the acceptance of innovations. This is because the data was gathered from Kampala in Uganda by relying on a sample size of 250 respondents to represent all banking and non-banking clients. Moreover, as most monetary institutions are in towns, the clients from remote places are neglected. This shall expose a wide perspective on MBA in Uganda while rendering better solutions on how to extend appropriate services to remote societies.

Financial institutions must cut down on the charges of utilizing mobile banking services to eliminate the long queues of clients from their premises and save time. They should also safe guard client information and make sure their systems are secure enough to render high quality mobile banking services. Any system complications must be worked upon so that clients are not disrupted or agitated.

3.9.5. Suggestions for Future Studies

The researcher recommends the following suggestions for future research:

Extra research must address the constructs that impact perceived usefulness (PU), perceived ease of use (PEoU), perceived risk and trust in Uganda. Besides, other constructs that are responsible for engaging in MBA need to be focused on. This is due to the different impacts of varying constructs on numerous societies.

Surveys based on community factors must be done to launch favourable schemes that shall raise MBA in communities. Further investigations are needed to expose the cultural constructs that inspire the acceptance of inventions. For instance; as western states

prefer PU, eastern states rely on PEoU. Eastern states are more communally focused than western ones thus emphasizing the negligence of other constructs. In eastern states, personal flexibility and inventiveness should be given attention to raise the rate of accepting inventions.

More studies are required to highlight mobile banking and its benefits to an economy's gross domestic product. This will encourage people to indulge in MBA and boost the economic since governments benefit from such inventions. Additionally, research on how to increase the internet access countrywide must be availed since developing states face internet challenges. This shall equip monetary institutions with cheaper techniques to expand mobile banking coverage and extend up-to-date services to the whole Ugandan community. Moreover, utilizing the internet shall reduce paperwork as the globe is turning digital.

Supplementary research about loyalty to utilize inventions is needed to highlight safety concerns, expenses and client gratification. These pave way for the acceptance of inventions such as; electronic software, electronic readiness and mobile learning.

Furthermore gender, age, income, education, marital status and occupation require much focus to elaborate on how they are responsible for the acceptance of inventions. This will identify which gender and age group need more encouragement to utilize innovations while clarifying which demographic features have more impact on the acceptance of inventions. It will also elaborate on which inventions enhance clients' attitude, beliefs and the usage of inventions.

Alternative studies must be directed to new inventions like e-wallets which have become popularly used as mobile payment structures. E-wallets help their users to carry less cash around hence boosting their application of mobile banking. This is because banking clients are attracted to use them alongside mobile phones thus developing the third world countries.

New studies must focus on branchless banking services and the acceptance of branchless banking techniques. This is due to the growth of technology which has forced

the brick and mortar techniques to be abandoned in most countries. Likewise, traditional banking has been replaced by e-banking which comprises of internet banking and mobile banking that offer faster and quality branchless services hence gaining a lot of attention from clients.

Research about mobile banking via new mobile gadgets is called upon to pave way for when they will occupy the whole market. These gadgets for instance; Google glass and smart watches should be recognized as they can be applied in the implementation of mobile banking. Though they are not so much utilized worldwide, their demand is anticipated to pick up in future.

There is need for many surveys on mobile banking activities and technology acceptance models and theories while focusing on a larger sample for example, East Africa at large to get more reliable results and direct the concerned parties on how to take the necessary measures. This will devise on how to improve technology acceptance in less developed economies.

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Appendix 1: Questionnaire

I am carrying out a study about mobile banking activities in Uganda while focusing on both banking and non-banking clients.

This study is in partial fulfilment of requirement for a master's degree in business management. The following questions are for academic purposes only and the respondents' answers will be confidential.

SECTION A: ELEMENTS DETERMINING MOBILE BANKING ACTIVITIES

These sentences illustrate the elements that determine mobile banking activities. For every sentence, please indicate to what extent you agree or disagree by using a scale of 1-5 below. '1' indicates strongly disagree, '5' indicates strongly agree whereas the middle digits illustrate varying levels of agreement.

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Please tick in the boxes that best describe your opinion:	**1**	**2**	**3**	**4**	**5**
1. Undertaking mobile banking activities is easy and simple to me					
2. I can carry out mobile banking activities on my phone and make a transaction					
3. Mobile banking activities take less time					
4. Mobile banking is less frustrating as its access codes are easily remembered					
5. Mobile banking is clear					
6. Using mobile banking app needs less mental effort					
7. I can use mobile banking without anyone's help					
8. I find mobile banking activities comfortable to conduct					
9. Mobile banking improves my performance when banking					
10. Mobile banking is convenient for me to do my banking activities					
11. Mobile banking apps help me finish banking activities faster					
12. Mobile banking apps increase quality of banking transactions					
13. Carrying out mobile banking activities makes me a modern customer					
14. Mobile banking makes my transactions easier					
15. Mobile banking is not substituted by other banking methods					
16. Undertaking mobile banking activities is a good idea					
17. My attitude towards mobile banking activities is favorable					
18. I think undertaking mobile banking activities is beneficial to me					
19. I like the idea of carrying out mobile banking activities					
20. Undertaking mobile banking activities would be pleasant					

21. I am drawn to carry out mobile banking activities					
22. I will frequently undertake mobile banking activities in the future					
23. I will strongly recommend others to carry out mobile banking activities					
24. I have interest in mobile banking activities					
25. I plan to utilize mobile banking apps					
26. May be, I'll engage in mobile banking activities in future					
27. I am determined to indulge in mobile banking activities					
28. I am likely to recommend my bank to friends or family					
29. I am not likely to switch to another bank					
30. If I had no bank account yet, I would still choose to open one with my current monetary institutions					

SECTION B: GENERAL INFORMATION

Please tick in the box that best describes you.

31. Gender: Male ☐ Female ☐
32. Age: 21-30yrs ☐ 31-40yrs ☐ 41-50yrs ☐ 51 & above ☐
33. Marital Status: Single ☐ Married ☐ Other ☐
35. Level of education: PhD ☐ Master's Degree ☐ Bachelor's Degree ☐ Diploma ☐ High School ☐ others ☐ (Please Specify)
36. Did you open a bank account with any bank to carry out mobile banking activities? Yes ☐ No ☐
37. Do you have accounts in other banks where you carry out mobile banking activities? Yes ☐ No ☐
38. For how long have you conducted mobile banking activities? Less than 6 months ☐ 6 months ☐ l year ☐ 1 year and above ☐
39. How often do you check your bank balance or do bank transactions per week? Less than once a week ☐ 1-3 times a week ☐ several times a week ☐ once a day ☐ several times a day ☐

40. Are there any suggestions on how to escalate mobile banking activities?
i……
ii……

THANK YOU FOR YOUR TIME AND COOPERATION

Appendix 2: Curriculum Vitae

T.C.

NECMETTİN ERBAKAN ÜNİVERSİTESİ

Sosyal Bilimler Enstitüsü Müdürlüğü

Curriculum Vitae

PERSONAL INFORMATION:

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2008: Iganga Secondary School-UCE

2010: Iganga Secondary School-UACE

2014: Makerere University Business School-Bachelor's Degree in International Business

WORK EXPERIENCE:

Sales Personnel: Hajjati House Hold Store (2014-2016)

Accounts Personnel: Fresh Perch Ltd (August, 2012-2013)

Sales Personnel: Ricoja Auto Parts Store (2010-2012)

SKILLS: Success and results driven, proven sales and negotiation skills, analyse financial information

LANGUAGES: Luganda, English and Turkish.

HOBBIES: Reading, travelling and discovery

AWARDS: Bachelor's degree in International Business.

REFEREES:

Mr. Osipira Alfred, Administrator, Fresh Perch Uganda Ltd

Dr. Nahit Yılmaz, Necmettin Erbakan University, Institute of Social Sciences, School of Business, Business Management.