UNIVERSITY OF CAPE COAST

DETERMINANTS OF MOBILE BANKING ADOPTION AMONG UNIVERSITY OF CAPE COAST

BY

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DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature:…… Date:……..……

Name: Theresa Agbesi

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of the dissertation laid down by the University of Cape Coast.

Supervisor's Signature:…….…… Date:……..

Name: Mr. Isaac Kosi

ABSTRACT

The main purpose of the study was to investigate the determinants of mobile banking adoption among sandwich students of the University of Cape Coast. Precisely, the study: assessed the perceived ease of use towards mobile banking adoption; analysed perceived usefulness towards mobile banking adoption; ascertained social influence towards mobile banking adoption; evaluated the perceived risk towards mobile banking adoption, and examined the perceived cost towards mobile banking adoption among sandwich students of University of Cape Coast. The descriptive research design was adopted for the study whereby a convenience sampling technique was used to select 341 sandwich students. Questionnaire administration was the data collection method used. The data were analysed with the use of frequency and percentages. It was found that the majority of the students consistently agreed with all the indicators of perceived ease of using mobile banking and its usefulness as well as the social influences towards mobile banking adoption. Similarly, it was found that the majority of the students consistently agreed to all proxies of the perceived cost of mobile banking adoption, but the majority of the students agreed to certain aspects of perceived risk towards mobile banking adoption, while the majority of them disagreed to other aspects of perceived risk towards mobile banking adoption. The conclusion was that mobile banking presents some perceived ease of use, social influence, usefulness, risks and cost to the students. Thus, it was recommended for the management of the banks to intensify ease of use, usefulness and social influence, while reducing the risks and cost of mobile banking services.

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DEDICATION

To my family and friends

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CHAPTER ONE

INTRODUCTION

In the current global landscape, there is a pervasive shift towards mobile banking, supplanting traditional banking methods, due to its attributes of speed, efficiency, and accessibility. Notably in Ghana, mobile banking services have become essential marketing tools for banks, offering services like bill payments, money transfers, and balance inquiries, while expanding their reach to remote areas. Yet, the extent to which these services are embraced by University of Cape Coast sandwich students remains uncharted territory. Thus, this research aims to address this gap by investigating the factors influencing mobile banking adoption among this specific demographic. Understanding the adoption patterns of this unique student group holds significance for enhancing banking practices, promoting financial inclusion, and advancing theoretical models in the context of technology adoption in the financial sector.

Background to the Study

Globally, advancement in technology has changed every facet of human life (Alalwan, Dwivedi, Rana & Williams, 2016) and improved the standard of living of people (Changchit & Chuchuen, 2018). It has not only transformed our daily lives, but also changed how firms operate by providing new possibilities which allow businesses to gather, interpret, and share huge amounts of information for decision-making purposes (Komulainen, 2018).

In this regard, Leung and Matanda (2013) assert that the benefits that modern-day technology offer businesses include increased efficiency and reduction

in operating cost. Similarly, Offei and Nuamah-Gyambrah (2016) mentioned that modern technology, particularly mobile banking is preferred by bank customers to traditional banking because it is faster, more convenient, advanced and more rewarding in terms of banking experiences by providing excellent customer services. Mobile banking is explained as a service or product offered by banks through handheld devices such as mobile phones (Tam & Oliveira, 2017). In recent years, Tam and Oliveira (2017) stressed that mobile banking has brought a drastic change in the financial industry globally with a major intention to ensure efficient as well as effective commercial operations within the financial industry. Historically, it all started with the invention of the Automated Teller Machine, then advanced to Internet banking, and finally to mobile banking (Sahu & Deshmukh, 2020). These advancements have created significant potential opportunities for increased mobile banking usage, which have materialized across both advanced and less advanced nations, including Ghana (Agyei, Sun, Abrokwah, Penney & Ofori-Boafo, 2020).

In today's world, individuals can conduct banking transactions and gain access to a wide range of banking services including; checking account balances, management of accounts, funds transfers, payment of bills, purchasing investment products, and international remittance among others at one's convenience with a mobile phone (Gu, Lee, & Suh, 2009). Hitherto, these services could only be accessed upon a visit to a branch (branch banking). As a delivery channel, mobile banking has been found to offer faster and a more convenient way of rendering

services than traditional branch banking and other delivery modes such as the ATM (Safeena, Date, Kammani, & Hundewale 2012).

From the perspective of bankers, mobile banking is a means of providing financial services via cellular devices (Pousttchi & Schurig, 2004). From the perspective of the customer, mobile banking relates to accessing account information, paying bills, and employing various banking services with the use of a cell phone (mobile) (Sahu & Deshmukh, 2020). Mobile banking has become more popular for a number of reasons, including smartphone penetration and mobile network availability (The World Bank, 2009), convenience, user-friendliness (Alalwan et al., 2016), and anytime–anywhere access (Lee & Chung, 2009). On this basis, Tam and Oliveira (2017) revealed that mobile banking as a service or product provided by banks has enabled its customers to perform their transactions in remote areas. Equally, Mortimer et al. (2015) are of the view that the benefits of mobile banking for end users include not only rapid access to mobile banking services but also increased efficiency and the ability to manage individual financial transactions (Sahu & Deshmukh, 2020).

Within the Ghanaian context, the adoption of mobile banking has seen notable growth, with a particular focus on enhancing access to financial services, including bill payments, money transfers, and balance inquiries (Cudjoe, Anim, & Nyanyofio, 2015). These services have been strategically tailored by banks to cater to the unique financial needs of various demographic segments. However, while there is an emerging trend of mobile banking adoption in the country, the specific adoption patterns among tertiary students, including those at the University of Cape

Coast (UCC), remain a relatively underexplored area of research. Understanding the adoption behaviours and attitudes of this specific demographic is crucial due to the distinct attributes and challenges they may face. Current data and trends in mobile banking adoption among tertiary students, both nationally and at UCC, are pertinent to this research. This context sets the stage for our study, where we aim to delve into the interplay of these variables and their collective influence on mobile banking adoption among University of Cape Coast sandwich students, contributing to a deeper comprehension of this evolving financial landscape.

The non-adoption of mobile banking can have various consequences. Individuals who refrain from using mobile banking may encounter inconvenience in managing their finances, missing out on the convenience of services like balance checking and fund transfers. Moreover, this reluctance can limit access to a wide array of banking services, while also potentially increasing operational costs for banks. Security concerns may deter some individuals, despite the generally secure nature of mobile banking apps. The non-adoption of mobile banking can also impede financial inclusion, hinder technological innovation, and exacerbate the digital divide, impacting both individuals and the banking industry. To address these effects, individuals and financial institutions must consider the benefits of mobile banking and address any concerns or barriers that may be preventing its wider adoption (Msweli & Mawela, 2021).

From the literature, several factors including, ease of use, perceived usefulness, trust, social influence, perceived risk, compatibility and cost have been found to be associated with the mobile banking adoption decision (Chong, Chan,

& Ooi, 2012; Mortimer, Neale, Hasan, & Dunphy, 2015). However, it has been argued that the adoption of mobile technology does not follow a universal pattern (Bankole, Bankole, & Brown, 2011). As Sheng, Wang, and Yu (2011) point out, context matters in the adoption of a technology. Thus, the factors that drive mobile banking adoption may differ based on context. This view provides a motivating basis to investigate mobile banking within a different context

It is worth mentioning that the emergence of mobile banking has resulted in significant changes in Ghana's banking industry (Narteh et al., 2017). This is because, customers' preferences for new financial products are constantly changing, and competition for many bank customers has also become the norm within the banking industry. In this wise, financial institutions have also made a considerable effort by providing financial products and services that are appealing to their clients to retain their loyalty and meet their expectations. It should be noted that customers nowadays prefer using banking products or services that allow them to perform any transaction from the comfort of wherever they find themselves (Avornyo et al., 2019). Hence, many financial institutions see mobile banking as an excellent opportunity to meet their customers' needs.

There have been previous studies indicating the usefulness of mobile banking to both financial institutions and customers (Cudjoe et al., 2015; Kwarteng et al., 2019). This assertion has also been backed by the diffusion of innovation theory (Rogers, 1995) and the technology acceptance model (Davis, 1989). For example, the diffusion of innovation theory advocates that the adoption of innovative technology such as mobile banking happens gradually when the level of

evidence and views pertaining to the usefulness of mobile banking are constantly spread among the intended consumers or users through various communication channels with respect to time (Rogers, 1995).

The technology acceptance model as propounded by Davis (1989) is among the most referenced theories in the field of mobile banking. This theory also suggests that the key motive that drives people to accept innovation such as mobile banking dwells on the fact that it will help them to improve their performance. However, the theory indicates that people may intend not to use innovative technology when they believe that innovative technology such as mobile banking is complex or difficult to use (Davis, 1989). Arguably, the survival of any groundbreaking innovative technology such as mobile banking is based on its adoption, provided that potential adopters will find it simple and easy to use (Makanyeza, 2017).

Kwarteng et al. (2019) argued that access to financial services within the Ghanaian banking industry has been improved drastically using mobile banking thus allowing retail banks to reduce costs and inefficiencies in their business operations. Kwarteng et al. (2019) added that mobile banking is an important mobile platform through which banks provide financial services to customers who use their mobile devices to undertake a wide range of transactions. Despite the benefits that Ghanaian bank customers derive from mobile banking, certain factors affect its adoption and usage rates. Since the role of mobile banking cannot be overlooked, it becomes essential to delve into the factors that motivate customers to adopt mobile banking. Cudjoe, Anim, and Nyanyafio (2015) cited perceived

cost as a major impediment regarding mobile banking usage among Ghanaian bank customers.

Although mobile banking services exist, their adoption remains very low (Offei & Nuamah-Gyambrah, 2016). Given the perceived benefits of mobile banking usage to both financial institutions and customers in the world, particularly in Ghana, its adoption can only be attained when effectively used by its targeted customers.

Statement of the Problem

Mobile banking has emerged as a transformative force in the financial services sector, both globally and in Ghana. The convenience and accessibility it offers, driven by factors such as perceived ease of use, perceived usefulness, social influence, perceived risk, and perceived cost, have led to significant adoption rates in various demographic segments (Dzogbenuku, 2013). However, despite the growing trend of mobile banking usage in Ghana, there is a discernible gap in our understanding of the specific adoption behaviours among tertiary students, particularly those at the University of Cape Coast (UCC). A significant shortcoming in the existing literature pertains to the inadequate exploration of key variables that influence mobile banking adoption, particularly within the context of UCC's sandwich students. Factors such as perceived ease of use, perceived usefulness, social influence, perceived risk, and perceived cost have been recognized as pivotal determinants in technology adoption, but their collective impact on the adoption patterns of this specific demographic remains uncharted territory.

Over the years, the usefulness of mobile banking globally cannot be underestimated. This stems from the fact that mobile banking improves efficiency and facilitates payment transactions (Cudjoe et al., 2015). Given the expansion of mobile networks and services provided by telecommunication networks throughout the country, Agyei et al., (2021) anticipate that these figures are likely to rise. In relation to these developments and as a competitive strategy for banks, Avornyo et al., (2019) mentioned that banks in Ghana are using mobile banking platforms to offer a variety of financial and non-financial services to their customers. Regardless of the benefits of mobile banking, its adoption in Ghana remains very low (Kwarteng et al., 2019; Agyei et al., 2021). Meanwhile, Makanyeza (2017) argued that for mobile banking to become a success, it will depend on the rate at which customers use it. In this respect, a lot of studies have been carried out on customers' adoption towards mobile banking in some parts of Ghana (Agyei et al., 2021; Avornyo et al., 2019; Cudjoe et al., 2015).

In Ghana, the National Communications Authority (NCA) reports that the total number of mobile subscriptions has been on the increase (NCA, 2020). Given the growth of mobile networks and services offered by telecommunication operators across Ghana, it is going to continue into the foreseeable future (Narteh, Mahmoud & Amoh, 2017). These developments undeniably offer huge growth prospects for raising mobile banking services use. Moreover, it also spurs telecommunication companies and banks to develop new mobile applications to grow their client base and satisfy their needs. Indeed, in line with these developments and as a competitive strategy, retail banks in Ghana provide an

assortment of financial and non-financial services via mobile banking apps or platforms (Avornyo et al., 2019). Notwithstanding, the situation is no different, as the adoption rate of mobile banking remains low (Owusu Kwateng, Atiemo & Appiah, 2019), prompting the need to explore the factors that impact its adoption.

Among all these studies, the results that have been found in Ghana are very inconsistent. For instance, Avornyo et al. (2019) discovered perceived usefulness to be the major factor that contributes to customers' adoption of mobile banking. In another study, Agyei et al. (2021) also found perceived ease of use to be the key factor that drives customers to use mobile banking. This indicates that there is no unified position regarding the factors that contribute to mobile banking adoption in Ghana since the outcomes of these studies vary depending on location, context, and time of study.

Although there is abundant literature on the determinants of mobile banking adoption both locally and internationally (Abbas et al., 2018; Agyei et al., 2020; Alalwan et al., 2016; Bakar et al., 2017; Cudjoe et al., 2015; Farah et al., 2018; Koksal, 2016; Konan, 2021; Lwin et al., 2019; Saxena et al., 2022; Singh & Srivastava, 2018), it appears that little studies have been conducted on students in Ghana (Appiah-Gyamerah & Yamoah., 2014; Owusu et al., 2021). More specifically, none of the previous literature has directly concentrated on sandwich students at the University of Cape Coast regarding the factors that influence them to use mobile banking services. Many sandwich students might be older and possibly less familiar with digital technologies and mobile banking compared to traditional regular students (Adzifome & Agyei, 2023). This provides an

opportunity to explore how a population that may be less tech-savvy initially can be influenced to adopt mobile banking over time, shedding light on behaviour change dynamics. Against this background, this research was prompted by the limited empirical evidence in the study area to investigate the determinants of mobile banking adoption among University of Cape Coast sandwich students.

Purpose of the Study

The research purposely investigates the determinants of mobile banking adoption among University of Cape Coast sandwich students.

Research Objectives

Specifically, the study sought to:

1. Assess the perceived ease of use towards mobile banking adoption among University of Cape Coast sandwich students.
2. Analyse the perceived usefulness towards mobile banking adoption among University of Cape Coast sandwich students.
3. Ascertain social influence towards mobile banking adoption among University of Cape Coast sandwich students.
4. Evaluate the perceived risk towards mobile banking adoption among University of Cape Coast sandwich students.
5. Examine the perceived cost towards mobile banking adoption among University of Cape Coast sandwich students.

Research Question

This study was influenced by these research questions:

1. To what extent does perceived ease of use influence mobile banking adoption among University of Cape Coast sandwich students?
2. How does perceived usefulness influence mobile banking adoption among University of Cape Coast sandwich students?
3. To what extent does social influence affect mobile banking adoption among University of Cape Coast sandwich students?
4. How does perceived risk influence mobile banking adoption among University of Cape Coast sandwich students?
5. How does perceived cost influence mobile banking adoption among University of Cape Coast sandwich students?

Significance of the Study

The outcome of this research would be of extreme significance to various stakeholders. In the first place, the outcome of this study will inform banks on how best to engage customers with regard to mobile banking usage in Ghana. Secondly, the outcome of this study will inform customers on how to identify the various factors that trigger them to use mobile banking services in Ghana. Lastly, it is envisaged that the outcome of this study will serve as a store of knowledge for prospective scholars who will venture into this kind of study.

Delimitation of the Study

The scope of the study was delimited to the determinants of mobile banking adoption among University of Cape Coast students. This implies that students from other tertiary institutions within the Ghanaian educational sector were ignored. In essence, the scope of the study covered all University of Cape Coast sandwich

students during the 2022/2023 academic year but not regular and distance students. Lastly, the study was delimited to the variables pertaining to perceived ease of use, perceived usefulness, social influence, perceived risk and perceived cost as the determinants of mobile banking adoption among University of Cape Coast students.

Limitation of the Study

The method employed in any research has some limitations which affect the outcome of that research. In the first place, the data was acquired using a questionnaire and this limited the outcome of the study because it did not provide an in-depth account with respect to respondents perspectives. More precisely, the respondents answered only to the statements on the questionnaire as this restricted them from making general views, perceptions and opinions regarding the topic. Again, some of the respondents were not willing to participate in the study due to their busy schedules. Hence, they were in a rush when filling out the questionnaire. Finally, the outcome of the study was based on a sample of just 351 sandwich students of the University of Cape Coast and hence, generalisation pertaining to the results of the study would be limited.

Definition of Key Terms

The following key terms were operationally defined:

Mobile banking: it can be explained as a service or product provided by banks through the utilization of handheld devices such as mobile phones. It also implies a service which enables users or clients to access their bank accounts as well as improve banking operations via smartphones or other cellular devices.

Determinants of mobile banking: they are the factors which influence customers' intention to use mobile banking.

Perceived ease of use: it refers to the step or extent to which an individual or person believes that using an innovation or technology would require less physical and mental effort.

Perceived usefulness: it relates to the step whereby a person has faith that using a specific innovation will enhance his or her job performance. Thus, it is assumed that any innovative product considered valuable to any individual will be accepted and used in pertaining to that individual.

Social influence: it entails the step whereby a person's intention to use an innovation or device is influenced by what others have said about it. For example, being influenced by relatives, friends and others.

Perceived risk: it is defined as uncertainties regarding possible undesirable consequences of using mobile banking.

Perceived cost: it entails the step whereby a person thinks that using an innovation such as mobile banking will be expensive.

Organization of the Study

This research was structured into five chapters. Chapter one covered the introduction which comprises the background to the study, statement of the problem, purpose of the study, research questions, significance of the study, limitation and delimitation of the study, definition of key terms as well and organization of the study. Chapter two covered the review of the related literature of the study which was grouped under conceptual, theoretical, and empirical

review. Chapter three of the study was devoted to research methods. Also, chapter four of this study highlighted the findings and discussions. The last chapter, thus chapter five encompassed a summary of the research findings, conclusions, recommendations and suggestions made regarding future studies.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Based on the objectives and research questions, this aspect of the research seeks to review previous studies pertaining to the determinants of mobile banking adoption among University of Cape Coast sandwich students. This chapter consists of three sections: theoretical, conceptual, empirical studies and conceptual framework. Specifically, the review covered the theories underpinning the study, concepts of mobile banking, perceived ease of use, perceived usefulness, social influence, perceived risk, perceived cost as well as conceptual framework. Again, empirical studies on determinants of mobile banking adoption were also reviewed.

Theoretical Framework

This study advances our level of knowledge regarding the determinants of mobile banking Adoption by applying Rogers's (1995) diffusion of innovation theory and the Technology Acceptance Model (TAM) as the main theories underpinning this research. These theories were purposely designed to explain, illustrate as well and understand how people accept or reject a technology.

Technology acceptance model (TAM)

The technology acceptance model is among the most referenced theories in the field of mobile banking. The technology Acceptance Model (TAM) was propounded by Davis (1989) who argued that a person's ability to use a new technology such as mobile banking is driven by his or her attitude. The theory suggests that the key motive that drives people to accept innovations such as mobile

banking stems from the fact that it will help them improve their performance. However, the theory indicates that people may intend not to use innovative technology when they believe that innovative technology such as mobile banking is complex or difficult to use (Davis, 1989).

Davis (1989) has outlined three key user motivating attributes to be perceived ease of use, perceived usefulness, and attitude with respect to acceptance of an innovation such as mobile banking. Additionally, external factors, perceived cost, perceived risk and social influence were added by Szajna, (1996) since they have been found to be particularly useful in enhancing the prediction of adoption and usage of an innovation. Even though the theory has piqued the interest of mobile banking scholars in predicting customers' acceptance of technology, Lai (2017) contends that this theory cannot be adopted to explain other factors that might influence customers' decision to adopt mobile banking.

It must be emphasised that behaviour that stems from a customer's usage or experiences with a particular technology such as mobile banking as indicated by Davis (1989) is crucial in influencing the extent to which that customer will adopt and use mobile banking to perform various transaction and hence, regarding the construct of this theory, the determinants of mobile banking adoption can be linked with the behaviour regarding University of Cape Coast sandwich students.

Davis's (1989) technology acceptance model is best suited for investigating the determinants of mobile banking adoption among University of Cape Coast students. This theory is paramount because it provides a comprehensive view pertaining to customers' usage of mobile banking. It is pertinent to note that despite

the enormous benefits associated with mobile in this era of technology, some customers in the banking sector remain indifferent to using mobile banking.

Diffusion of innovation theory

This theory was propounded by Rogers in 1995. Diffusion of innovation theory explains that the adoption of any technology such as mobile banking occurs when the level of evidence and views regarding the usefulness of that technology are constantly spread among the intended consumers or users through various communication channels over time (Rogers, 1995). In the field of mobile banking, this theory describes how mobile banking was adopted by individuals and organizations, used and also became successful over a given period. However, Sevcik (2004) argued that not all innovations are embraced immediately after they are developed; regardless of their relevance they may be to consumers, they may take a long period to be accepted. He then again added that an individual's failure to accept or use a new technology or system such as mobile banking can limit the spread of adoption.

Anyasi and Otubu (2009) define diffusion as the process of communicating an innovation through certain channels over a certain period among the group of a social system. He also defines communication as a process where people create and share information to reach a mutual understanding. Again Porteous (2006) argued that there are four stages in the innovation diffusion process: invention, diffusion (or communication) through the social system, time and consequences. The easiness of use and newness (in terms of persuasion, knowledge and the decision to adopt) of an innovation can determine the way an individual will

respond to an innovation. The adoption of mobile banking facilities would be possible if the individual behavioural intention of a customer is influenced by what people around them believe about it.

However, diffusion of innovation theory is associated with certain limitations. The extent whereby a prospective consumer of an innovation or system must incur switching costs to learn how to use the new one is decided by how much time and effort this user spent learning how to use the old technology and its features (Vaugh & Schavione, 2010). Cruz et al. (2010) on the other hand, state that people's resistance to an innovation or system is highly informed by functional and psychological barriers. Lastly, the components of this theory that were propounded by Rogers in 1995 might not be the only factors that drive the adoption of mobile banking in Ghana. Considering the study's goal, which was to investigate the factors that influence mobile banking adoption among Ghanaian bank customers,

Considering the goal of this research which sought to investigate the determinants of mobile banking adoption among University of Cape Coast students, the diffusion of innovation theory becomes essential to this research because, as students who are seen as customers intent to fulfilling their satisfaction and expectations with respect to mobile banking services, there is a drive towards the adoption of newly and improved innovation or technology that will meet those needs, which in this case mobile banking, according to Rogers (1995) will have a significant impact on their behaviour about the acceptance and usage of mobile banking.

In summary, the Diffusion of Innovation Theory describes how an individual can adopt and use mobile banking over a given period. Additionally, the Technology Acceptance Model stress the fact that individuals' attitude drives their ability to use mobile banking. These theories were important to the study because they provided a holistic understanding in terms of how sandwich students of the University of Cape Coast adopt and use mobile banking over a given period and also how their behaviour influences them to use mobile banking.

Conceptual Review

Concept of mobile banking

In our modern world, the usefulness of mobile banking cannot be underestimated. Mobile banking is defined as "a service or product provided by banks which permits clients to perform numerous transactions using portable technologies such as smartphones (Tam and Oliveira, 2017). This system of banking is regarded as a game changer in the banking industry because it incorporates mobile technological innovations with monetary and commercial services (Bharti, 2016). Mobile banking services are offered via a wide range of avenues, notable among them are downloadable mobile platforms and short message service (SMS) (Cudjoe et al., 2015).

Tam and Oliveira (2017) stressed that mobile banking is essential to both banks and their customers. This stems from the fact that it allows banks to expand their services to other places, giving them the edge over their competitors as well as fulfilling the demands of their customers (Komulainen, 2018). On a similar note, customers can use these mobile banking platforms to check their balance, pay bills,

get account information, recharge of mobile balance, transfer money, do shopping, access bank statements as well and receive remittances from abroad (Makanyeza, 2017). Given the perceived benefits of mobile banking to both financial institutions and customers, its adoption can only be materialised when effectively used by its targeted customers or end users.

Mobile banking service and modes of operation

Mobile banking services

Mobile banking services, according to Cruz et al. (2010) are commonly used as an alternative delivery channel (ADC) for a variety of transactional and non-transactional services.

As shown in Table, additional ADCs include ATMs, telephone banking, internet banking, and so on.

Table 1: services provided through mobile banking

Transactional services	Non-transactional services
"Bill" Payment	"Balance" inquiry
"Peer-to-peer"	payment Mini-bank statement
Money Transfer	"PIN" reset
Funds from abroad	Checkbook request
Shopping	Due alerts for payment
Recharge of m-balance	ATMs Location

Source: Shaikh and Karjaluoto (2015)

Modes of operation by providers

A variety of mobile banking concepts have been developed. According to Cudjoe et al. (2015), three models that have been discovered and developed differ in terms of the kind of relationship they formed (Banks or Non-A Bank/Telecommunication Company) with the clients for account opening, deposit or withdrawer, borrowing and the rest. In this regard, three business models identified by the Alliance for Financial Inclusion (2013) include the Bank-Led Model, Bank-Focused Model and Non-Bank-Led Model.

Technologies used to offer mobile banking

Technologies that are employed in mobile banking encompass browser-based applications, messenger-based applications, and client-based applications (Gaffer, 2009). Mobile banking services, such as short messaging and application downloads, could be combined into a single interface (Tiwari & Buse, 2007).

Client-based applications

According to Cudjoe et al. (2015), this approach requires customers to install software which allows them to use mobile devices offline to obtain certain transactions before going online. Entering information before connecting to the internet could save money. This technology is useful since it enables users to stay offline while performing transactions. This helps to cut down internet connection time and cost (Tiwari & Buse, 2007).

Browser-based applications

This type of application requires mobile banking customers to be connected to the internet (Cudjoe et al., 2015). They further state that the interface is generated

by the server and transported to the mobile device, allowing the content to be displayed via the browser. According to Gaffer (2009) this procedure is extremely quick based on the server to which the customer is connected, however, it requires the subscriber (user or client) to remain online during the entire transaction process, which may increase the costs of consumers.

Several factors have been identified in the literature as influencing mobile banking adoption (Arahita & Hatammimi, 2015). It should be pointed out that these factors have a huge influence on determining a person's desire concerning mobile banking usage. These factors include perceived usefulness, perceived ease of use, social influence perceived risk and perceived cost. The above-mentioned factors will be discussed.

Perceived ease of use

Perceived ease of use, as defined by Davis (1989) is the step in which an individual believes that using an innovation or technology would require less effort. This presupposes that an individual will embrace a technology provided it is simple to use rather than one that is extremely difficult to use (Davis, 1989). For instance, Jeong and Yoon (2013) carried out a study in Singapore and found that there is a positive relationship between perceived ease of use and mobile banking adoption. As suggested by Hanafizadeh et al. (2014), the significance of ease of use is not inclined to only the acceptance of a particular innovation such as mobile banking, but it also influences the long-term usage of that technology.

On a similar note, Mehrad and Mohammadi (2016), argued that if consumers feel easy to learn and use mobile banking, their perceptions of it will

enhance. This presupposes that bank customers are supposed to know the simplicity of mobile banking services before they can be convinced to use such technologies. This will determine the extent to which they will adopt and use mobile banking since it involves technology. Therefore, it can be inferred that ease of use is expected to positively affect customers' acceptance of mobile banking.

Perceived usefulness

According to Davis (1989), perceived usefulness is the step at which an individual thinks that using a technology would enhance his or her job performance. Thus, it is assumed that any innovative product perceived to be useful to any individual will be adopted and used by that individual. Several studies conducted in relation to mobile banking services have reported that perceived usefulness is a major factor contributing to the adoption of new technology such as mobile banking since customers learn about its relevance (Alalwan et al., 2016; Puriwat & Tripopsakul, 2017).

In a similar vein, mobile banking is useful in that it improves efficiency and facilitates payment transactions (Cudjoe et al., 2015). This indicates that customers are always open to embracing any technology provided it will be useful. In other words, if customers find a technology or innovation useful, they adopt it easily. This will determine the extent to which they will adopt and use mobile banking services since it involves technology.

Social influence

Social influence denotes the step whereby a person's desire to use a system or an innovation is shaped by those within his or her circle (Ajzen, 1991). This

suggests that the opinions people hold towards the expectations of others can be a contributing factor regarding the acceptance and usage of mobile banking (Dunn, Mohr, Wilson, & Wittert, 2011). Regarding a consumer's intentions in using a technology or an innovation such as mobile banking, Farah (2017) argued that social influence plays a crucial role in shaping that individual's views and attitudes whereas reducing doubts and fears concerning the acceptance of a new product (Illia et al., 2015). This implies that social influence is essential in a situation whereby an individual has little experience with a new technology such as mobile banking, referent feedback will help that individual to understand how to use mobile banking.

Equally, an individual will rely on the advice, opinions as well and experiences of other people before he or she uses mobile banking since it is relatively a new form of banking (Qasim & Abu-Shanab, 2016). This demonstrates how the advice, views, or opinions of others, such as friends, siblings, parents, and relatives, affect a person's decision to embrace mobile banking. Hence, given the value of social relations in our Ghanaian context, it is anticipated that social influence will enhance people's willingness to embrace mobile banking.

Perceived risk

Perceived risk relates to customers' fears, worries, or threats about the outcome of their buying decisions (Geçti & Zengin, 2013). In the context of mobile banking, perceived risk can be defined as uncertainties regarding possible undesirable consequences of using mobile banking services. Paluch and Wünderlich (2016) mentioned that the perception of the possible risk exposure of

a user is when his or her private information is known to others. This implies that the risk that mobile banking customer experience can serve as a challenge to mobile banking adoption. On a similar note, Narteh et al., (2017) discovered that the perception of risk will increase if clients notice any likely threat emanating from the complexities of the usage of mobile banking services.

The losses may include any uncomplimentary consequences to customers, such as financial loss, the violation of privacy, dissatisfaction with performance, psychological anxiety or discomfort, time waiting and long queues (Narteh et al., 2017). Any uncomplimentary implications to customers, such as financial loss, invasion of privacy, displeasure with performance, emotional distress or discomfort, and time waiting are considered a risk associated with mobile banking. Given the unique features of a technology such as mobile banking, its perceived risk is expected to be higher than that of the product (de Kerviler, Demoulin, & Zidda, 2016). It must be stressed that it is extremely important for customers to understand the possible risks and consequences of mobile banking services before they can be convinced to use such technologies. This will determine how far people will embrace mobile banking since it involves technology. Even though mobile banking is essential in the affairs of customers, it becomes worrying when the risk perception they have about mobile banking can impede them from using mobile banking services efficiently. Therefore, perceived risk is anticipated to negatively influence an individual's desire to use mobile banking.

Perceived cost

Perceived cost is the step whereby an individual has faith that using a technology or innovation such as mobile banking will be expensive (Owusu et al., 2021). Previous studies have discovered perceived cost as a limitation regarding an individual's usage of mobile banking (Hanafizadeh et al., 2014; Cudjoe et al., 2015). Abbas et al. (2018) discovered in their study that the cost associated with mobile banking affects its adoption. These costs come in the form of subscription fees, transaction fees, switching fees, and so on, and are solely incurred by the customer who uses mobile banking (Owusu et al., 2021).

In essence, when people anticipate the cost of using mobile banking to be high in comparison to conventional banking, there is the likelihood that they will switch to the conventional system of banking. Given the importance of mobile banking to banks and their clients, it is disturbing when perceived costs in the form of service charges among other issues can hinder customers' adoption of mobile banking. This suggests that perceived cost is likely to negatively influence an individual's intention to use mobile banking.

Empirical Review

Perceived ease of use towards mobile banking adoption

Raza et al. (2017) explored the factors that affect customers' intention to use mobile banking in Pakistan. The descriptive research design was adopted for the study whereby convenience sampling was used to choose three hundred (300) mobile banking customers in Pakistan. The research employed a questionnaire to gather the required data from the 300 participants for this study as well and

structural equation modelling was also used to analyse the data. The outcome of the study revealed that perceived ease of use has a major influence on users' intention towards the adoption of mobile banking in Pakistan. Raza et al.'s study and this current study both used questionnaires, However, this current study was conducted in the Ghanaian context as well as in a university setting.

In another study, Bakar et al. (2017) assessed Perceived ease of use, security and privacy of mobile banking in Malaysia. The purpose of the study was to investigate the relationship between perceived ease of use, security and privacy towards mobile banking adoption services at CIMB Bank Berhad in Kuala Terengganu, Malaysia. By adopting a convenience sampling method, two hundred (200) bank customers were selected as respondents for the study. The study used a questionnaire as the main data collection tool to collect the required information from respondents. Out of the 200 questionnaires that were distributed, only 150 out of them were valid. The data was then analysed with frequencies and correlation analysis. The findings from the study revealed that perceived ease of use has a major impact on customers' intentions to use mobile banking. The study suggested the need for banks to do more promotions and incentives to increase the level of awareness among their customers. It must be emphasized that the study failed to indicate the type of research design that was adopted for the study, however, the findings are important for this current study. Also, this current study was conducted in the Ghanaian context, which is a developing country.

A study was conducted by Elhajjar and Ouaida (2019) on the factors affecting mobile banking adoption in Lebanon. The main objective of the study

was to assess the degree to which mobile banking is adopted by customers living in four different cities in Lebanon. The descriptive research design was used for this study. The convenience sampling technique was used to pick 320 respondents for the study. The questionnaire served as the main data collection instrument in this research whereas structural equation modelling was used to analyse the collected data. According to the results of the study, perceived ease of use affects customers' adoption towards mobile banking. The study therefore suggested the need for banks to provide more incentives, encourage and educate people to recognize the fact that mobile banking is user-friendly as well and assist them with challenges they will encounter during its usage. Both Elhajjar and Ouaida's study and this current study both used questionnaires, however, this current study was conducted in the Ghanaian context and used SPSS as well as conducted in a university setting.

Agyei et al. (2021) studied the impact of personality traits on consumers' intentions to use mobile banking services in Accra, Ghana. The study aimed to investigate the impact of personality traits on customers' intentions to adopt mobile banking. For the study, a descriptive survey research design was used. The study included 482 mobile banking customers who were chosen using a convenience non-probability sampling technique. A questionnaire was also used to collect data from the 482 participants in the study. The data from the respondents was analysed with structural equation modelling. As per their study, perceived ease of use has a major influence on the desire of individuals to use mobile banking. The study highlighted

the importance of service providers focusing on developing effective marketing strategies that recognize various customers' personality traits to enhance adoption.

Perceived usefulness towards mobile banking adoption

In Zimbabwe, a study was carried out by Makanyeza (2017) on the determinants of consumers' intention to adopt mobile banking services. The research aimed to ascertain the determinants of consumers' intention to adopt mobile banking services among bank customers in Chinhoyi, Zimbabwe. The study was guided by the cross-sectional survey design in which a simple random sampling technique was employed to select 232 bank customers who served as the participants for this research. The study used a questionnaire to gather the required data from the 232 respondents who were selected from five major banks in Chionyi, Zimbabwe. The data was then analysed by employing Structural Equation Modeling. The findings from the study discovered that Perceived usefulness significantly influences an individual's intention to use mobile banking. The study recommended that banks should pay much attention to the factors that influence mobile banking adoption when developing new mobile banking services for their clients. The study also recommended that banks should ensure that they educate their customers regarding the usefulness of mobile banking services. Here the respondents for the study were chosen from only five banks which could affect generalisation. However, this current study used respondents across all banks.

In Ghana, Avornyo et al. (2019) studied the factors that affect the continuous usage intention of mobile in Tema and Kumasi. The purpose of the study was to investigate the antecedent of continuous usage intention of mobile

banking among bank customers in Tema and Kumasi, Ghana. Through a simple random technique, 295 mobile banking customers from Tema and Kumasi were chosen as the participants for the study. Using a questionnaire as the main data collection instrument, Structural Equation Modeling was used to analyse the collected data. The findings from the study showed that perceived usefulness strongly influences customers' continuous usage of mobile banking in Tema and Kumasi. The study suggested that commercial banks should formulate and implement policies that will enhance customers' experiences when conducting mobile banking transactions. Avornyo et al.'s research did not highlight the design employed during the study. Also, although both studies were conducted in Ghana, this current study was conducted in a different city.

Moreover, Sakala and Phiri (2019) explored the factors affecting the adoption and use of mobile banking services in Zambia based on the TAM Model. The objective of the research was to evaluate the factors that affect the adoption and use of mobile banking services in Zambia based on the technology acceptance model. The study adopted the descriptive research design. The main data collection instrument employed was a questionnaire which was administered to a sample of 384 respondents who were chosen from three commercial banks in Lusaka through the purposive non-probability sampling technique for the study. The collected data was analysed using Statistical Package for Social Science (SPSS) with findings presented through the use of descriptive and inferential statistics. The study found that there is a strong positive relationship between Perceived usefulness and mobile banking adoption. The study suggested that commercial banks and providers of

mobile banking services should improve the perceived usefulness and promote positive customer behaviour and intentions towards mobile banking. It was also suggested that banks should provide information on how clients can access and use mobile banking services to increase the rate of adoption. The results from the study resulted from respondents at three banks in Zambia and therefore, generalisation of the study's results would be limited while this current study used respondents across all banks.

Owusu et al. (2021) conducted a study on Mobile banking adoption among the Ghanaian youth. The purpose of the study was to investigate the factors that influence the intention of individuals to adopt mobile banking. The quantitative survey design was used for the study. The total population of 517 respondents was chosen from a business school in a large public university in Ghana. A questionnaire was the main instrument used for the study. The hypothesized relationships were analyzed using the Structural Equation Modeling technique. The results of the study uncovered that perceived usefulness positively influences customers' intentions to use mobile banking services in Ghana. The study therefore recommended that banks should design mobile banking features that consumers can easily identify with and operate with minimal difficulty. It was also suggested that banks should roll out user-friendly marketing strategies such as ads and brochures, illustrating tips on how to set up the platform needed to effectively perform mobile banking transactions.

Social influence towards mobile banking adoption

Makanyeza (2017) undertook a study on the determinants of consumers' intention to adopt mobile banking services in Zimbabwe. The research aimed to ascertain the determinants of consumers' intention to adopt mobile banking services among bank customers in Chinhoyi, Zimbabwe. The study was guided by the cross-sectional survey design in which a simple random sampling technique was employed to select 232 bank customers who served as the participants for the study. A structured questionnaire was used to gather the required information from the 232 respondents who were selected from five major banks in Chionyi, Zimbabwe. The data was then analysed by employing Structural Equation Modeling. The results from the study revealed that social influence positively influences customers' intention towards mobile banking adoption. The study recommended that banks should pay much attention to the factors that influence mobile banking adoption when developing new mobile banking services for their clients. Again, the study recommended that banks should ensure that bank customers know the usefulness of mobile banking services. The respondents for the study were chosen from five banks which could affect generalisation whiles, this current study used respondents across all banks.

Farah et al. (2018) undertook research on mobile banking adoption in Pakistan. The study aimed to investigate the factors which influence customer intention towards mobile banking adoption. A cross-sectional research design was used in the study. For the study, four hundred and ninety (490) respondents were chosen using a convenience sampling technique from five selected banks in

Pakistan. Questionnaires were used to gather the required data from the respondents. The data were then analysed using Statistical Package for Social Science (SPSS) and structural equation modelling. The results from the study uncovered that consumers' adoption of mobile banking is significantly driven by social influence. The study therefore recommended that bank managers should focus on improving customers' intentions to use mobile banking services by creating mobile banking platforms that are useful to them. However, the study failed to highlight other factors that might influence mobile banking adoption, which were considered in this current study.

A study was carried out by Konan (2021) on the determinants of mobile banking adoption in Togo. The study's goal was to assess factors that influence the adoption of the Ecobank mobile banking app in Lomé, Togo. The study employed a cross-sectional design in which a simple random probability sampling technique was used to select three thousand seventy (3017) bank customers as respondents for the study. An online structured questionnaire was adopted as the main data collection instrument for the study. Only 1422 people responded to the survey out of a total population of 3017 people sampled for the study. As a result, the response rate was 47%. The data was analysed with descriptive statistics and inferential statistics. According to the study, social influence has a strong influence has a strong influence towards mobile banking adoption. The study recommended that banks should invest more resources in mobile banking to improve service delivery to their customers. Although the study used an online questionnaire as the primary data collection instrument, a manual-based questionnaire has the advantage of

clarifying any confusion that the respondents could have concerning the questions. This was addressed in this current study.

Saxena, Gera and Taneja, (2022) conducted a study on facilitators and inhibitors of the adoption of mobile banking in India. The purpose of the study was to assess the most crucial factors influencing and impeding consumer adoption of mobile banking. The research design employed in the study was a descriptive research design in which a sample of 536 mobile banking customers from Delhi was chosen as respondents, using the convenience non-probability sampling technique. A questionnaire was also used to collect the necessary information from the respondents, and structural equation modelling was also used to analyse the data. The results of the study found social influence to be a major influential factor towards mobile banking adoption. The study therefore suggested the need for banks to put up the required measures to overcome the barriers associated with mobile banking adoption to enhance customers' experience.

Perceived risk towards mobile banking adoption

Perceived risk has also been identified in the literature as one of the factors that drive mobile banking adoption among customers. For instance, Achieng and Ingari (2015) investigated the factors influencing the adoption of mobile banking in Kenya's commercial banks. The purpose of the study was to examine the factors affecting mobile banking adoption at KCB Kilindini Branch, Mombasa Kenya. The study employed a descriptive research design. Using a purposive sampling technique, 169 bank customers from Kenya's commercial bank branch in Kilindini were selected as respondents for this research. The study adopted a questionnaire

as the main data collection instrument. The collected data was then analysed using Statistical Package for Social Science (SPSS) with research findings presented with the help of descriptive and inferential statistics. As per their study, perceived risk was found to be one of the major factors inhibiting the adoption of mobile banking. It was suggested that banks should roll out safety security features to ensure that mobile banking users feel protected and comfortable when performing mobile banking transactions. This research was confined to only one public bank in Kenya which could affect generalisation to all banks. To address this, this current study used respondents across all banks.

Also, Ravichandra and Madana (2016) studied the factors influencing mobile banking adoption in Kurunegala District, Sri Lanka. The motive of the study was to investigate the factors that affect mobile banking adoption among bank users in the Kurunegala District of Sri Lanka. Using the descriptive research design, a convenience sampling method of 40 mobile banking users was chosen from four commercial banks as respondents. The data was obtained using a questionnaire, which was then analysed with descriptive and inferential statistics. The results of the study revealed that perceived risk has a major influence towards mobile banking adoption among customers in the Kurunegala District of Sri Lanka. The study recommended that banks should communicate to their clients the benefits of embracing and using mobile banking services over traditional banking. The sample size used for this study is too small for generalisation

In a similar study, Chavali and Kumar (2018) explored the adoption of mobile banking and perceived risk in GCC banks in, the United Arab Emirates.

The research aimed to examine mobile banking adoption and perceived risk among bank customers in the GCC Bank of United Arab Emirates. A descriptive research design was used for the study in which convenience sampling was employed to choose 90 participants for the study. A questionnaire was administered to collect the data from respondents. Factor analysis was done to evaluate and analyse the responses. The outcome of the study disclosed a negative influence towards perceived risk on mobile banking customers. They suggested the need for banks to improve mobile banking service delivery and address any related risks associated with mobile banking. This research was confined to only one bank which could affect generalisation to all banks. To address this, this current study used respondents across all banks.

Again, Farah et al. (2018) undertook research on mobile banking adoption in Pakistan. The study aimed to investigate the factors which influence customer intention towards mobile banking adoption. A cross-sectional research design was adopted in the study. For the study, four hundred and ninety (490) respondents were chosen using a convenience sampling technique from five selected banks in Pakistan. Questionnaires were used to gather the required data from the respondents. The data were then analysed using Statistical Package for Social Science (SPSS) and structural equation modelling. The study uncovered that perceived risk negatively affects customers' intention to use mobile banking. The study therefore recommended that banks should put in more effort by developing mobile banking apps that are free from any faults and potential attacks as this will stimulate customers to adopt mobile banking. However, the study failed to

highlight other factors that influence mobile banking adoption. This has been addressed in this current study

Perceived cost towards mobile banking adoption

In Ghana, Cudjoe et al. (2015) carried out a study on the determinants of mobile banking adoption among access bank customers. The cross-sectional research design was applied in the study. A sample of 150 Access bank customers in Accra was chosen for the study through the purposive non-probability sampling technique. Using a questionnaire as the primary data collection instrument, the Statistical Package for Social Sciences (SPSS) was employed to analyse the data, and the results were then presented in the form of descriptive statistics such as frequency distribution. The outcome of the study discovered that perceived cost is a key factor that impedes customers' intention towards the adoption of mobile banking. The study therefore suggested banks should examine the cost implications of their mobile banking service on their customers. This research was confined to only one bank which could affect generalisation to all banks. To address this, this current study used respondents across all banks.

More so, Abbas et al. (2018) studied the determinants of mobile banking Adoption in Pakistan. The main purpose of the study was to examine the factors that influence mobile banking adoption in Pakistan. The study employed a cross-sectional research design whereby the snowballing non-probability sampling technique was used to select 446 respondents from Lahore, Islamabad and Karachi for the study. A structured questionnaire was used as the main data collection instrument. Statistical Package Social Science (SPSS) was used to analyse the

collected data with results presented using descriptive statistics and inferential statistics. The findings from the study revealed that Perceived Cost has a negative influence towards mobile banking adoption. The study recommended that banks should reduce mobile banking charges and risk perceptions regarding mobile banking usage through education. The research area of Abbas et al.'s study and this current study is different as this current study was conducted in Ghana.

Another study was carried out by Singh and Srivastava (2018) to predict the intention to use mobile banking in India. The main focus of the study was to investigate factors influencing customers' adoption of mobile banking in India. The study used the descriptive research design in which a convenience sampling technique was employed to select 855 bank customers from public, private, foreign, and cooperative banks in India. The main data collection instrument used for the study was a questionnaire. Structural equation modelling was used to analyse the data. The results of the study showed that perceived financial cost strongly influences customers' intention to adopt mobile banking in India. The study therefore recommended that banks should raise awareness among their customers through various promotional and marketing strategies such as advertisements to increase the adoption of mobile banking in India. It was also recommended that banks should implement mobile banking services and encourage their customers to use them. The research area of Singh and Srivastava's study and this current study is different as this current study was conducted in Ghana

A study was carried out by Lwin et al. (2019) on mobile banking adoption among customers within the private commercial banking sector in Yangon,

Myanmar. The main purpose of the study was to assess the extent to which the perceived usefulness, perceived ease of use, perceived cost and perceived risk influence the adoption of mobile banking services by customers of the Private Commercial Banking Sector in Yangon, Myanmar. The study adopted the correlational research design. Through a simple random technique, two hundred (200) participants were chosen for the study. The study employed a structured questionnaire to collect the required data from the respondents. Statistical Package for Social Science (SPSS) was used to analyse the collected data with findings presented using descriptive statistics and inferential statistics. The outcome of the study found a negative influence towards Perceived cost regarding customers' adoption of mobile banking. The study recommended that banks should invest more in mobile banking and other technological innovations, including special promotional communication drives to educate and reassure customers about the ease of using mobile banking services. It was also suggested that banks should take security issues regarding mobile banking seriously to make their customers feel secure and continue using mobile banking services. The study covered only private banks which could affect generalisation.

Conceptual Framework

The goal of this framework was to present a pictorial view regarding the relationship between the independent variables (perceived ease of use, perceived usefulness, social influence, perceived risk and perceived cost) and the dependent variable (mobile banking adoption). The independent variables are directly linked to mobile banking adoption. According to this framework, an individual's desire

to use mobile banking is driven by numerous factors that have been classified into five independent variables.

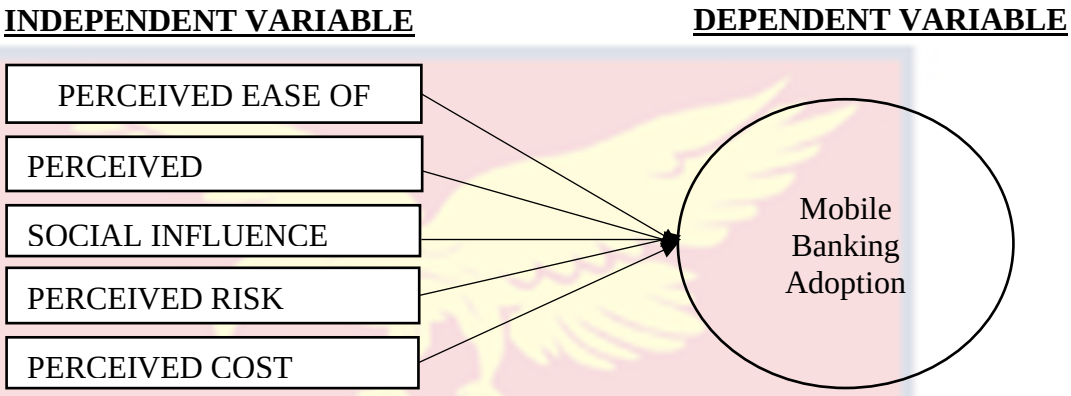

Figure 1: Conceptual framework on the Determinants of Mobile Banking Adoption among UCC sandwich students

Source: Author's Construct, 2022.

In reference to this framework, perceived ease of use implies that an individual's decision to use mobile banking depends on how easy and simple it will be for that individual. Also, perceived usefulness in the framework indicates an individual decision to use mobile banking by considering how useful or relevant mobile banking will be to him or her. Again, social influence in the framework demonstrates that a person's desire to use mobile banking is informed by what other people have said about mobile banking services which they have experienced.

Moreover, perceived risk in the framework means that an individual willingness to use mobile banking will depend on the uncertainties, undesirable consequences or perceived dangers associated with mobile banking. Lastly, the perceived cost in the framework means that the desire of an individual to adopt

mobile banking hinges on the cost associated with mobile banking such as subscription charges (e.g., SMS alert)

Chapter Summary

To summarise, the chapter gave a comprehensive review of previous studies with respect to the determinants of mobile banking adoption. Notably, the chapter discussed the two theories that supported this research work. Furthermore, the study highlighted the major concepts that guided the study. The chapter also provides a conceptual framework in reference to the objectives of the study. The chapter ended by presenting empirical works on the determinants of mobile banking adoption. The study will proceed to the next chapter, Research Methods.

CHAPTER THREE

RESEARCH METHODS

Introduction

The preceding chapter was devoted to the theories, concepts and empirical reviews which guided the research work in investigating the determinants of mobile banking adoption among sandwich students at the University of Cape Coast. This chapter seeks to examine the research methods that were used for the study by building on the theoretical and empirical findings discussed in the previous chapter. The post-positivist research paradigm was adopted for this research because this paradigm considers natural events and their characteristics as well as interprets reasons through coherent observation (Creswell & Creswell, 2017).

Research Approach

The approach represents an essential aspect of every scientific study because the approach offers a comprehensive roadmap, procedures, plans as well and strategies for carrying out any study. In pursuance of this, the quantitative approach was used for the study (Creswell & Creswell, 2017). The quantitative approach employs numerical techniques to verify the extent to which a particular construct can be deeply understood (Creswell & Plano Clark, 2011). In essence, it helps in understanding the cause-and-effect relationship among the variables guiding the study. Thus, this approach allows for the collection and transformation of information aimed at assisting the researcher in performing various quantitative or numerical exercises to reach a firm conclusion (Saunders & Lewis, 2012). Also, the quantitative method offers more objective feedback in that it is appropriate for

predicting the relationship between two or more variables (Creswell & Creswell, 2017). Hence, the study used this approach due to its ability to investigate the determinants of mobile banking adoption with respect to the students at the University of Cape Coast.

Research Design

This research applied the descriptive design in achieving the objectives pertaining to this research because it provides an accurate description of major elements such as persons, objects, events and processes in a study. This design aims to present and explain the true nature or state of an event as it unfolds (Amedahe & Gyimah, 2021). Moreover, the design is suitable for discovering and addressing issues that have not been thoroughly studied (Yin, 2016). Amedahe and Gyimah (2021) maintain that the design provides insightful ideas on a particular issue as well as assists in generalising the findings of the study. On the other hand, the design does not allow for an in-depth description of respondents' responses and the outcomes could be influenced by other uncontrolled variables which served as the main weaknesses for the use of the design. Notwithstanding its shortfalls, the researcher used this design since it helped to gather information with greater confidence with respect to questions that related to the determinants of mobile banking adoption among University of Cape Coast sandwich students.

Study Area

The University of Cape Coast is a public research university in Ghana which was founded in October 1962 to train graduate teachers for senior high schools and colleges of education after acknowledging the critical need for highly trained

personnel to manage the country's educational sector. (University of Cape Coast, 2022). Geographically, the University is situated on a hill overlooking the Atlantic Ocean, which makes it one of the few seafront Universities in the world. The University has two main campuses; namely the North (Science) and South campus (Old site). The University is bounded by several communities including Apewosika, Kokoado, Amamoma, Kwaprow and Akotokyir. In addition, the University has eight halls of residence as well as two medical hostels that serve as housing for students, particularly first-year undergraduates.

Along the line, the mission of the University has been diversified owing to the growing demands of society. Presently, the University has expanded to the level where it has added several programmes of study to its key mission including medicine, pharmacy, nursing, sociology, actuarial science, computer science, law, economics and the rest. The University has five distinct Colleges which is headed by Provosts namely, College of Education Studies, College of Humanities and Legal Studies, College of Health and Allied Sciences, College of Agriculture and Natural Sciences and College of Distance Education.

Also, the University has over seventeen (17) faculties which are headed by Deans, as well as several departments being headed by Heads of Department. In addition, the University has eleven (11) directorates, each of which performs a different function (University of Cape Coast, 2022).

Mobile banking adoption is an important issue for developing countries like Ghana, where many people lack access to formal financial services and rely on informal channels such as mobile money. Mobile banking can offer convenience,

security, affordability, and inclusion to the unbanked and underbanked population, as well as enable them to participate in the digital economy. However, some challenges and barriers hinder the widespread adoption of mobile banking, such as lack of trust, awareness, infrastructure, regulation, and interoperability. Therefore, studying mobile banking adoption at UCC can provide valuable insights and recommendations for policymakers, practitioners, and researchers who are interested in promoting financial inclusion and innovation in Ghana and beyond.

Population

Population refers to a group of subjects with specific attributes or characteristics of interest (Creswell, 2014). The targeted population for this research included all University of Cape Coast students. The total population of University of Cape Coast students is seventy-eight thousand, four hundred and eighty-five (78485). However, the accessible population regarding this research included all University of Cape Coast sandwich students during the 2022/2023 academic year. This is because they were available on campus during the time of the study. Currently, there are a total of four thousand fifty-six (4056) sandwich students enrolled at the University of Cape Coast (University of Cape Coast, 2022). Sandwich students were chosen because of the convenience as well as their lifestyle as they often juggle work, family, and academic commitments. This diverse set of responsibilities and financial situations may impact their mobile banking adoption choices.

Sampling Procedure

In pursuing this objective, the study adopted the convenience sampling technique to select three hundred and fifty-one (351) sandwich students for the research. The decision was made in reference to the researcher's ability to get access to respondents who were close at hand during the data collection exercise. Convenience sampling technique is used based on the proximity of the respondents of the research (Amedahe & Gyimah, 2021). Convenience sampling was used because of the easy accessibility of the students and the time sensitivity of the research. To facilitate generalization, the researcher ensured that there was population homogeneity. That is, the researcher included participants from various colleges within the sandwich student population. In this way, three hundred and fifty-one (351) sandwich students served as respondents to this research. This was based on a recommendation by Krejcie and Morgan (1970) who recommended that for a population of four thousand fifty-six (4056), a sample of three hundred and fifty-one (351) respondents is adequate for a meaningful generalisation of the study.

Data Collection Instrument

The study employed a self-developed questionnaire to gather the required data from the participants. The instrument is more efficient than other instruments in measuring the views, feelings and behaviours of a relatively large number of respondents (Ogah, 2013). The study adopted a questionnaire as the main data collection instrument because the study aimed at measuring the views, feelings and behaviours of students with respect to determinants of mobile banking adoption. Again, the instrument was considered suitable for the study because it saves a lot

of time by requiring respondents to simply tick from a number of predefined statements in their responses. In addition, the instrument allows the participants of the study to answer the research items objectively without any fear of being victimized especially when the researcher is not present.

All the items on the questionnaire were rated on a three-point Likert scale namely Disagree (D), Neutral (3) and Agree (A) with one (1) representing the lowest level of agreement to the statements whereas three (3) denoting the strongest level of agreement to the issues. The questionnaire consisted of six (6) Parts (i.e., A to F). Thus, Section 'A' sought responses on respondents' demographic data, while Section 'B', comprised four (4) items, which collected responses on perceived ease of use towards mobile banking adoption. The third Section, thus Section 'C' was made up of five (5) items that solicited responses regarding perceived usefulness towards mobile banking adoption. Section 'D' included four (4) question items that gathered ideas or answers that related to social influence towards mobile banking adoption. Section 'E' included 8 (eight) items which gathered responses on perceived risk towards mobile banking adoption as well and Section 'F' included five (5) research items aimed at measuring respondents' feedback pertaining to perceived cost towards mobile banking adoption. The question items were adopted from Gu et al., 2009, Hanafizadeh et al., 2014 and Karjaluoto et al., 2010 and were modified to suit the context of the study.

Validity And Reliability

Validity and reliability reflect how well the instrument used in the study assesses the items it is supposed to test (Creswell, 2014). In achieving this, a series

of steps were conducted to measure and enhance the validity of the research instrument. In assessing the validity of the self-developed questionnaire, the researcher showed the questionnaire to other colleagues with strong research backgrounds for review. After the researcher was satisfied with their comments, the self-developed questionnaire was finally vetted by the supervisor who is well-versed in research. The instruments were given to the supervisor to evaluate the quality of the research instruments in terms of clarity, ambiguity and generality to make the necessary changes, and recommendations and get his approval to undertake the data collection exercise.

Pre-Testing

A pre-testing exercise was undertaken by using 50 regular postgraduate students at the University of Cape Coast to ensure the reliability of the questionnaire. These students were chosen at random to participate in the pre-testing because they have similar characteristics with sandwich students of the University in that they use mobile banking. This procedure was intended to test whether the items on each of the questionnaires were useful in measuring the clarity of the questions under consideration from respondents and to ascertain their level of understanding with respect to the research questions.

After the pre-testing exercise, a post-reliability test was performed on the instruments and reliability coefficient as displayed in the table below. As suggested by Best and Khan (2016), a reliability coefficient (alpha) of 0.70 or higher is regarded as moderately appropriate. From Table 2, all the Likert scale items were above the reliability threshold of 0.70 for measuring the reliability of the questions.

Table 2: Reliability Analysis

Items	Number of items	Cronbach Alpha (a)
Perceived ease of use	4	0.722
Perceived usefulness	5	0.740
Social influence	4	0.701
Perceived risk	8	0.910
Perceived cost	5	0.794

Source: Field survey (2022)

Data Collection Procedure

Before the researcher could gather the required data from the respondent, an introductory letter was obtained from the Head of Department of Management at the School of Business, University of Cape Coast. It should be noted that the purpose of this letter was to allow the researcher to acquire the necessary data from the respondents of the study. Following that, the researcher sought permission from the respondents. With their consent, the researcher promised them that this research was solely for academic work and thus any response given would be kept confidential and secret. Within two days, the researcher and two trained field assistants administered the questionnaire to 351 sandwich students. The researcher and trained field assistants moved from one lecture hall to the other to distribute and retrieve questionnaires until all of them were finished. Overall, the respondents were given 15 minutes to fill the items on the questionnaires and were immediately collected at the spot which allowed the researcher to carefully check for any missing information.

Data Processing and Analysis

All the questionnaires gathered from the field were edited thoroughly to eliminate any errors which were found to be invalid or incomplete. Thereafter, the questionnaires were serially labelled to ensure easy identification and coded for easy analysis. For coding, the items were assigned numerical values of 1, 2, and 3 for 1= Disagree (D), 2= Neutral (N) and 3= Agree (A) respectively. All the respondents' feedback for each item in the questionnaire was then entered, processed and analysed using Statistical Product for Social Science (SPSS) and the results were presented using descriptive statistical tools such as frequencies and percentages. The items were coded with the numbers 1, 2 and 3 for 1= Disagree (D), 2= Neutral (N) and 3= Agree (A)

Ethical Issues

The researcher made every attempt to prevent potential infringements of the code of ethics regarding this study. Ethical issues such as voluntary participation of respondents, anonymity, no harm to respondents and confidentiality were strictly enforced. In pursuing this objective, the researcher was fully guided by these principles such as the non-disclosure of respondents' personal information as a means of protecting and respecting their rights, privacy and integrity. After securing respondents' consent, they were promised that the information they provided would be used exclusively for research work and thus any information would be kept secret. Again, the researcher conformed accordingly to the set criteria of scholarly practice to avoid plagiarism. In doing so, turn-it-in was used to check the level of plagiarism in the work. Particularly, the researcher acknowledged the efforts and

writings of other scholars by properly citing them in this research using the American Psychological Association (APA) style of referencing which is also accepted by the University of Cape Coast.

Chapter Summary

This chapter described the methodology and analytical procedures used to achieve the goal of this study. More precisely, the chapter was dedicated to the quantitative approach, descriptive design, study area, population, sampling procedures, data collection instrument, data collection procedures, data processing and analysis. Again, validity and reliability as well as ethical considerations were clearly explained. The following chapter will focus on research findings and discussions.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents the results and discussion of the analyses carried out on the determinants of mobile banking adoption among University of Cape Coast students. The chapter is presented in six sections, section one describes the demographics of the respondents, while section two assesses the perceived ease of use towards mobile banking adoption among University of Cape Coast students. Later, the perceived usefulness of mobile banking adoption is analysed, while social influence towards mobile banking adoption is ascertained. Finally, the chapter evaluates students' perceived risk towards mobile banking adoption and examines their perceived cost towards mobile banking adoption. The study sampled 351 students but the response rate was 0.97151 so 341 students were used in all the analyses.

Demographic Characteristics of the Respondents

The demographic characteristics considered in this study include sex, age and level of programme of study. Frequency and percentage were used to analyse the sex, age and level of programme of study of the respondents (Table 1). The result of the analysis showed that the majority (55.7%) of the 341 respondents were males, while the rest (44.3%) were females. On the other hand, the modal (40.8%) age group was years 25 to 29 inclusive (139 students), while the age group with the lowest frequency was those below age 20. Moreover, the majority (54%) of the sampled students were postgraduates, while the rest (46%) were undergraduates.

Table 3: Sex, Age and Programme of the Respondents

Demographics	Frequency	Percentage
Sex		
Male	190	55.7%
Female	151	44.3%
Age		
below 20	1	0.3%
20-24	21	6.2%
25-29	139	40.8%
30-34	118	34.6%
35-39	11	3.2%
40-45	27	7.9%
45-49	13	3.8%
50 and above	11	3.2%
Level of Programme		
Undergraduate	157	46.0%
Postgraduate	184	54.0%

Source: Field survey (2022)

Perceived Ease of Use of Mobile Banking

This section assesses the perceived ease of use towards mobile banking adoption among University of Cape Coast students. The statements used to measure the perceived ease of use towards mobile banking adoption were that: 'mobile banking is easy to use', 'mobile banking is clear and understandable', 'it will be

easy for me to become skillful at using mobile banking, and that 'the user menus are categorised and are well laid out on the screen'. The reliability and validity of such statements to measure perceived ease of use towards mobile banking adoption were tested and certified (Appendix B). These statements were further measured based on a scale of 1 as disagree, 2 as neutral, and 3 as agree. Frequency and percentage were used to analyse the data.

Accordingly, 'disagree', 'neutral' or 'agree' with frequency more than half of the total sample of 341 or with a percentage greater than 50% means that the majority of the respondents respectively 'disagree', 'neutral' or 'agree' to the statements in question. The results in Table 2 revealed that consistently, the majority of the students agreed that mobile banking is easy to use 308 (90.3%), and also that mobile banking is clear and understandable 299 (87.7%). Similarly, the majority of the students agreed that it will be simple for them to become skillful at using mobile banking 294 (86.2%) and that the user menus are clearly categorised and well laid out on screen 294(86.2%).

Table 4: Perceived Ease of Use towards Mobile Banking Adoption

Statements	Disagree F (%)	Neutral F (%)	Agree F (%)
Mobile banking is easy to use	23(6.7)	10(2.9)	308(90.3)
Mobile banking is clear and understandable	13(3.8)	29(8.5)	299(87.7)
It will be simple for me to become skilful at using mobile banking	10(2.9)	37(10.9)	294(86.2)

The user menus are categorised and well laid out on the screen	10(2.9)	37(10.9)	294(86.2)

Source: Field survey (2022)

The exploratory factor analysis confirmed that the issues in Table 3 independently measure the perceived ease of use towards mobile banking adoption (Appendix B). The results also showed that the majority of the sampled sandwich students agreed with all the statements that measure perceived ease of use towards mobile banking adoption (Table 4). Thus, the key finding is that the majority of the sampled University of Cape Coast sandwich students consistently agreed to the proxies of perceived ease of use towards mobile banking adoption (eg. All the agreed columns have more than 50% response). This result is consistent with that of Raza et al. (2017) and Bakar et al. (2017) that perceived ease of use has a significant influence on users' intention towards the adoption of mobile banking in Pakistan and Malaysia respectively. The perceived ease of use enables people to recognize mobile banking as friendly in assisting them with the challenges that one may encounter during its usage (Elhajjar & Ouaida, 2019). Relatedly, the perceived ease of use could be enhanced by developing effective marketing strategies that recognise various customers' personality traits (Agyei et al., 2021).

Perceived Usefulness towards Mobile Banking Adoption

In this section, the researcher analysed the perceived usefulness of mobile banking adoption among University of Cape Coast students. The study intended to measure the perceived usefulness of mobile banking with five items, but two of such items were dropped because the exploratory factor analysis revealed that they

did not meet the criteria to be included in the measurement of the perceived usefulness of mobile banking among the University of Cape Coast students. The three items that meet the criteria are that; 'Mobile banking permits me to do my financial transactions quicker', 'I think mobile banking makes it easier for me to do my banking transactions', and 'using mobile banking services saves a lot of time' (Appendix 9). These statements were further measured based on a scale of 1 as disagree, 2 as neutral, and 3 as agree. Frequency and percentage were used to analyse the data.

Table 5: Perceived Usefulness towards Mobile Banking Adoption

Statements	Disagree F (%)	Neutral F (%)	Agree F (%)
Mobile banking permits me to do my financial transactions quicker	12(3.5)	22(6.5)	307(90)
I think mobile banking makes it easier for me to do my banking transactions	9(2.6)	14(4.1)	318(93.3)
Using mobile banking services saves a lot of time	19(5.6)	6(1.8)	318(92.7)

Source: Field survey (2022)

Accordingly, 'disagree', 'neutral' or 'agree' with frequency more than half of the total sample of 341 or with a percentage greater than 50% means that the majority of the respondents respectively 'disagree', 'neutral' or 'agree' to the statements in question. The results revealed that regularly, the majority of the students agreed that mobile banking allows them to do their financial transactions

quicker 307(90%). The majority of them also agreed that mobile banking makes it easier for them to do their banking transactions 318(93.3%) and that using mobile banking services saves a lot of time 318(92.7). Accordingly, the key finding is that the majority of the University of Cape Coast students consistently agree with all the indicators of the perceived usefulness of mobile banking.

A similar result was reported that perceived usefulness strongly influences customers' continuous usage of mobile banking in Tema and Kumasi of Ghana (Avornyo et al. (2019) and Ghana in general (Owusu et al., 2021). It was also reported that perceived usefulness significantly influences an individual's intention to use mobile banking in Zimbabwe (Makanyeza, 2017) and that there is a strong positive relationship between Perceived usefulness and mobile banking adoption in Zambia (Sakala & Phiri, 2019). These findings confirmed the argument of the Conceptual Framework that perceived ease of use and usefulness are relevant for the adoption of an innovation such as mobile banking (Figure 1).

Social Influence towards Mobile Banking Adoption

In this section, the researcher ascertains social influence towards mobile banking adoption among University of Cape Coast students. The study envisioned to measure the social influence towards mobile banking with four items, but one of such items was dropped because the exploratory factor analysis revealed that they did not meet the criteria to be included in the measurement of the perceived usefulness of mobile banking among the University of Cape Coast students. The three items that meet the criteria are that; 'individuals who are vital to me feel that I should use mobile banking', 'relatives and friends might impact my choice to use

mobile banking', and 'various social media platforms can influence my decision to use mobile banking services'.

The statements were measured based on a scale of 1 as disagree, 2 as neutral, and 3 as agree. Frequency and percentage were used to analyse the data (Table 6). Accordingly, 'disagree', 'neutral' or 'agree' with frequency more than half of the total sample of 341 or with a percentage greater than 50% means that the majority of the respondents respectively 'disagree', 'neutral' or 'agree' to the statements in question. The results discovered that commonly, the majority of the students agreed that individuals who are vital to them feel that they should use mobile banking 209(61.3%). The majority of them also agreed that relatives and friends might impact my choice to use mobile banking 240(70.4%) and that various social media platforms may influence them to use mobile banking 222(65.1).

Table 6: Social Influence towards Mobile Banking Adoption

Statements	Disagree F (%)	Neutral F (%)	Agree F (%)
Individuals who are vital to me feel that I should use mobile banking	71(20.8)	61(17.9)	209(61.3)
Relatives and friends might impact my choice to use mobile banking	73(21.4)	28(8.2)	240(70.4)
Various social media platforms can influence my decision to use mobile banking services	79(23.2)	40(11.7)	222(65.1)

Source: Field survey (2022)

The main finding deduced is that the majority of the University of Cape Coast students consistently agree with all the indicators of perceived social influence towards mobile banking adoption. Makanyeza (2017) also reported a similar result that social influence positively influences customers' intention towards mobile banking adoption in Zimbabwe, while Farah et al. (2018) had a similar finding that Pakistan consumers' adoption of mobile banking is significantly driven by social influence. Relatedly, Konan (2021) had a similar report in Togo that social influence has a strong tendency to promote mobile banking adoption, while Saxena et al. (2022) also reported that social influence is a major influential factor towards mobile banking adoption in India. The implication is that service providers need to serve their customers well so that they will become loyal and ambassadors of their services.

Perceived Risk towards Mobile Banking Adoption

This section evaluates the students' perceived risk towards mobile banking adoption. Perceived risk towards mobile banking adoption was measured based on eight items such as 'Information with respect to my mobile financial transactions can be altered by others', 'I think mobile banking services are riskier when compared with other banking services', 'I am worried that my PINs will be forgotten and end up in the hands of wrong person', 'I fear that I might end up sending money to wrong people', and 'It can easily happen that money can be taken assuming mobile banking services are used'. These were followed by the statement that; 'Carrying out financial transactions on mobile phones is unsafe because one can undoubtedly lose it', 'I believe that privacy is not ensured while using mobile

banking services', and 'I have serious doubts that financial transactions performed on a mobile phone will work sufficiently'.

Again, the aforementioned statements were measured based on a scale of 1 as disagree, 2 as neutral, and 3 as agree. Frequency and percentage were used to analyse the data (Table 5). Accordingly, 'disagree', 'neutral' or 'agree' with frequency more than half of the total sample of 341 or with a percentage greater than 50% means that the majority of the respondents respectively 'disagree', 'neutral' or 'agree' to the statements in question. The results of the analysis show that comparatively more of the students disagreed that I am worried that my PINs will be forgotten and end up in the hands of the wrong person 158(46.3%) and that they accepted that it can easily happen that money can be taken assuming mobile banking services are used 163(47.8%).

On the other hand, comparatively more of the students agreed that privacy is not ensured while using mobile banking services 148(43.4%), and that carrying out financial transactions on mobile phones is unsafe because one can undoubtedly lose it 163(47.8%) as well as that they have serious doubts that the financial transactions performed on a mobile phone will work sufficiently 163(47.8%). Moreover, the majority of the students agreed that information with respect to their financial transactions can be altered by others 191(56%) and that mobile banking services are more risky when compared with other banking services 194(56.9%). Again, the majority of the students agreed that they worried that their PINs would be forgotten and end up in the hands of the wrong person 190(55.7%)

Table 7: Perceived Risk towards Mobile Banking Adoption

Statements	Disagree F (%)	Neutral F (%)	Agree F (%)
Information with respect to my mobile financial transactions can be altered by others	112(32.8)	38(11.1)	191(56)
I think mobile banking services are more risky when compared with other banking services	104(30.5)	43(12.6)	194(56.9)
I am worried that my PINs will be forgotten and end up in the hands of the wrong person	158(46.3)	30(8.8)	153(44.9)
I fear that I might end up sending money to the wrong people	112(32.8)	39(11.4)	190(55.7)
It can easily happen that money can be taken assuming mobile banking services are used	163(47.8)	48(14.1)	130(38.1)
Carrying out financial transactions on a mobile phone is unsafe because one can undoubtedly lose it	144(42.4)	42(12.4)	154(45.2)
I believe that privacy is not ensured while using mobile banking services.	143(41.9)	50(14.6)	148(43.4)
I have serious doubts that financial transactions performed on a mobile phone will work sufficiently	131(38.4)	47(13.8)	163(47.8)

Source: Field survey (2022)

The main finding is that the majority of the sampled sandwich students agreed to three items that measure perceived risk towards mobile banking adoption, while all of them were indecisive on the other items that measure perceived risk towards mobile banking adoption. Achieng and Ingari (2015) also had the result that perceived risk was found to be one of the major factors inhibiting the adoption of mobile banking in Kenya's commercial banks, while Ravichandra and Madana (2016) had a similar report that perceived risk has a major influence towards mobile banking adoption among customers in Kurunegala District of Sri Lanka. The report by Ravichandra and Madana (2016) revealed that perceived risk negatively influences customers' intention to adopt mobile banking. Accordingly, Chavali and Kumar (2018) hinted that this implies that there is a need for banks to improve mobile banking service delivery and address any related risks associated with mobile banking.

Perceived Cost towards Mobile Banking Adoption

This final section examines the perceived cost towards mobile banking adoption among University of Cape Coast students. The statements used to measure the perceived cost towards mobile banking adoption were that: 'I am of the view that mobile banking services are more expensive than the traditional banking services', 'I think that mobile operator charges in the form of subscription fees is expensive regarding mobile banking usage', 'I am of the view that transaction charges are high', and 'I believe that using mobile banking services is costly'.

Again, the aforementioned statements were measured based on a scale of 1 as disagree, 2 as neutral, and 3 as agree. Frequency and percentage were used to analyse the data (Table 6). Accordingly, 'disagree', 'neutral' or 'agree' with frequency more than half of the total sample of 341 or with a percentage greater than 50% means that the majority of the respondents respectively 'disagree', 'neutral' or 'agree' to the statements in question. The results reveal that the majority of the students agreed that they are of the view that mobile banking services are more expensive than traditional banking services 187(54.8%), and that mobile operator charges in the form of subscription fees are costly regarding mobile banking usage 221(64.8%). The majority of them also agreed that the transaction charges (such as E-levy fee) are high 262(76.8%) and that using mobile banking services is costly 262(76.8%).

Table 8: Perceived Cost towards Mobile Banking Adoption

Statements	Disagree F (%)	Neutral F (%)	Agree F (%)
I am of the view that mobile banking services are more expensive than the traditional banking services	104(30.3)	50(14.7)	187(54.8)
I think that mobile operator charges in the form of subscription fees (e.g., sending SMS alerts) are expensive regarding mobile banking usage	78(22.9)	42(12.3)	221(64.8)

I am of the view that transaction charges are high	45(13.2)	34(10)	262(76.8)
I believe that using mobile banking services is costly	93(27.3)	49(14.4)	262(76.8)

Source: Field survey (2022)

Accordingly, the key finding is that the majority of the sampled University of Cape Coast sandwich students consistently agreed to all the proxies of the perceived cost associated with the adoption of mobile banking. This result is consistent with the finding by Cudjoe et al. (2015) that perceived cost was identified as a key factor that impedes customers' intention towards adoption of mobile banking in Ghana, which is similar to the report by Abbas et al. (2018) that perceived cost has a negative influence towards mobile banking adoption Pakistan. Relatedly, Singh and Srivastava (2018) also reported that perceived financial cost strongly influences customers' intention to adopt mobile banking in India. As noted by Lwin et al. (2019), this requires that banks invest more in technological innovations in mobile banking to reduce the costs associated with the adoption of mobile banking.

Chapter Summary

This chapter assessed the perceived ease of use of mobile banking adoption among University of Cape Coast students. Later, the perceived usefulness of mobile banking adoption was analysed, while social influence towards mobile banking adoption was ascertained. Finally, the chapter evaluated the students' perceived risk towards mobile banking adoption and examined the perceived cost

towards mobile banking adoption. In the exception of perceived risk towards mobile banking adoption the majority of the students disagreed with certain aspects, while they agreed with other indicators. The majority of the students consistently agreed to all the statements used as proxies to perceived ease of use, usefulness, social influence, and cost.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

Introduction

This chapter presents the summary, conclusion and recommendations that were drawn from the study carried out on the determinants of mobile banking adoption among University of Cape Coast students. The summary is done by recapping the objectives of the study as well as the methodology adopted, and the key findings that emerged. The conclusions are written based on the implications of the key findings, while the recommendations are suggestions put forward to advance mobile banking adoption.

Summary of the Study

The main purpose of the study was to investigate the determinants of mobile banking adoption among University of Cape Coast students. Precisely, the study: assessed the consistently agreed proxies of perceived ease of use towards mobile banking adoption; analysed perceived usefulness towards mobile banking adoption; ascertained social influence towards mobile banking adoption; evaluated the perceived risk towards mobile banking adoption, and examined the perceived cost towards mobile banking adoption among the University of Cape Coast students.

The study adopted a quantitative approach and a descriptive study design. Additionally, the convenience sampling technique was used to select 341 sandwich students of the University of Cape Coast. Likert scale questionnaire was used for the data collection exercise. Meanwhile the perceived; ease of use, usefulness, social influence, risk and cost towards mobile banking adoption were measured on

a three-point Likert scale such as Disagree (1), Neutral (2), Agree (3). The validity and reliability of the statements used as proxies were tested using exploratory factor analysis. The data were analysed with the use of frequencies and percentages. Accordingly, 'disagree', 'neutral' or 'agree' with frequency more than half of the total sample size of 341 or with a percentage greater than 50% means that the majority of the respondents respectively 'disagree', 'neutral' or 'agree' to the statements in question.

Summary of Key Findings

The first objective assessed the perceived ease of use towards mobile banking adoption among the University of Cape Coast sandwich students. The key findings were as follows:

1. The majority 308(90.3%) of the sandwich students perceived the ease of using mobile banking and 299(87.7%) that mobile banking is clear and understandable.
2. The majority 294(86.2%) of the sandwich students perceived that it would be simple for them to become skillful at using mobile banking, as well as 294(86.2%) that the user menus are clearly categorised and well laid out on the screen.
3. The majority of the University of Cape Coast sandwich students perceived the ease of using mobile banking.

The key findings that emerged for the second objective, which analysed the perceived usefulness towards mobile banking adoption among the University of Cape Coast sandwich students were that:

1. The majority 307(90%) of the sandwich students perceived the usefulness that mobile banking permits them to do their financial transactions quicker.
2. The majority 318(93.3%) of the sandwich students perceived that mobile banking makes it easier for them to do their banking transactions.
3. The majority 318(92.7) of the sandwich students perceived the usefulness that using mobile banking services saves a lot of time.
4. The majority of the University of Cape Coast sandwich students perceived the usefulness of mobile banking.

The third objective ascertained social influence towards mobile banking adoption among the University of Cape Coast sandwich students and the major findings were that:

1. The majority 209(61.3%) of the sandwich students were influenced by individuals who are vital to them and made them feel that they should use mobile banking.
2. The majority 240(70.4%) of the sandwich students were influenced by their relatives and friends to use mobile banking.
3. The majority 222(65.1) of the sandwich students were influenced by various social media platforms to use mobile banking services.
4. The majority of the University of Cape Coast sandwich students perceived social influences towards mobile banking adoption.

The key findings for the fourth objective, which evaluated the sandwich students' perceived risk towards mobile banking adoption were as follows:

1. Comparatively more of the sandwich students were worried that their PINs would be forgotten and end up in the hands of the wrong person 158(46.3%) and that it can easily happen that their money can be taken assuming mobile banking services are used 163(47.8%).
2. Comparatively more of the sandwich students felt that privacy is not ensured while using mobile banking services 148(43.4%) and that carrying out financial transactions on mobile phones is unsafe because one can undoubtedly lose it 163(47.8%) well as that they have serious doubts that the banking transactions performed on a mobile phone will work sufficiently 163(47.8%).
3. The majority of the sandwich students thought that their information with respect to mobile financial transactions can be altered by others 191(56%) and that mobile banking services are more risky when compared with other banking services 194(56.9%).
4. The majority of the sandwich students were worried that their PINs would be forgotten and end up in the hands of the wrong person 190(55.7%).
5. The majority of the sandwich students perceived certain risks of mobile banking, while the majority of them did not perceive other risks of using mobile banking.

The final objective examined the perceived cost towards mobile banking adoption among University of Cape Coast sandwich students. The key findings obtained include:

1. The majority 187(54.8%) of the sandwich students perceived the cost of mobile banking services to be more expensive than traditional banking services.

2. The majority 221(64.8%) of the sandwich students perceived that mobile operator charges for mobile banking are expensive.
3. The majority 262(76.8%) also perceived that the transaction charges of using mobile banking services are high, and 262(76.8%) that using mobile banking services is costly.
4. The majority of the University of Cape Coast sandwich students perceived the costs associated with the adoption of mobile banking.

Conclusions

The sandwich students at the University of Cape Coast are more likely to perceive that mobile banking is easy to use as well as clear and understandable. They are also more likely to perceive that it will be simple for them to become skillful at using mobile banking and that the user menus are clearly categorised and well laid out on the screen. Thus, the students at the University of Cape Coast are more likely to perceive the ease of using mobile banking.

Similarly, the sandwich students of the University of Cape Coast are more likely to perceive that mobile banking permits them to do their financial transactions quicker and that mobile banking makes it easier for them to do their banking transactions. The sandwich students are also more likely to perceive that using mobile banking services saves a lot of time. Accordingly, the students of the University of Cape Coast are more likely to perceive the usefulness of mobile banking.

Relatedly, the sandwich students of the University of Cape Coast are more likely to perceive that individuals who are vital to them feel that they should use

mobile banking and that relatives and friends might impact their choice to use mobile banking. They are also more likely to perceive those various social media platforms can influence their decision to use mobile banking services. Hence, the students of the University of Cape Coast are more likely to perceive that there are social influences for them to adopt mobile banking.

However, the sandwich students of the University of Cape Coast are less likely to be worried that their PINs will be forgotten and end up in the hands of the wrong person, and that it can happen that cash can be taken assuming mobile banking services are used as well as that privacy is not ensured while using mobile banking services. On the other hand, the students of the University of Cape Coast are more likely to perceive that information with respect to their mobile financial transactions can be altered by others and that mobile banking services are more risky when compared with other banking services. Similarly, they are more likely to be worried that their PINs will be forgotten and end up in the hands of the wrong person and perceive that carrying out financial transactions on mobile phones is unsafe because one can undoubtedly lose it. Again, the students are more likely to have serious doubts that the financial transactions performed on a mobile phone will work sufficiently. Accordingly, the students at the University of Cape Coast are not consistent with the perceived risk towards mobile banking adoption.

Finally, the sandwich students of the University of Cape Coast are more likely to view that mobile banking services are more expensive than traditional banking services and that mobile operator charges in the form of subscription fees are expensive regarding mobile banking usage. Moreover, the sandwich students

are more likely to perceive that the transaction charges are high and that using mobile banking services is costly. Therefore, the sandwich students of the University of Cape Coast are more likely to perceive the cost associated with the adoption of mobile banking.

Contributions

The findings of this research make significant contributions to our understanding of mobile banking adoption among University of Cape Coast (UCC) sandwich students. These contributions encompass the domains of ease of use, usefulness, social influence, perceived risk, and cost, shedding light on the perceptions and attitudes of this specific demographic regarding mobile banking adoption. The study provides valuable insights into the perceived ease of use and usefulness of mobile banking among UCC sandwich students. These findings offer financial institutions and service providers a deeper understanding of the factors that attract and retain users. Institutions can leverage this knowledge to tailor mobile banking applications and services that align with students' preferences, potentially increasing adoption rates. By uncovering the role of social influence in mobile banking adoption, the research underscores the significance of interpersonal relationships and digital communities in shaping students' decisions. This contributes to a more comprehensive understanding of the social dynamics that encourage and promote the use of mobile banking. Financial institutions can capitalize on this insight by devising strategies to harness the power of social influence in their marketing and outreach efforts.

The study's examination of perceived risk highlights the multifaceted nature of concerns held by UCC sandwich students. Some students express worries related to PIN security and privacy, while others have doubts about the reliability of mobile banking transactions. These findings provide a nuanced view of risk perceptions, guiding financial institutions in developing targeted risk mitigation strategies and security features that address the specific concerns of this demographic. The research elucidates students' perceptions of costs associated with mobile banking adoption. It reveals that UCC sandwich students perceive mobile banking as more expensive than traditional banking services. These insights can inform financial institutions and policymakers in designing pricing strategies that resonate with students, potentially making mobile banking services more attractive and affordable. This study is situated within the unique context of UCC sandwich students, offering specific insights into this demographic. As these students balance academic commitments with work and family responsibilities, the study's findings provide a valuable perspective on their mobile banking adoption behaviours. This context-specific knowledge can serve as a foundation for future research and targeted interventions to support financial inclusion and convenience for similar student populations.

Recommendations

Based on the key findings and conclusions of the study, the following recommendations are put forward:

1. Based on the finding that the majority of the sandwich students at the University of Cape Coast perceived the ease of using mobile banking, it was recommended

for the management of the banks in the university community to make mobile banking readily available to the students. This will promote the adoption of mobile banking among the students to enjoy the benefits of mobile banking.

2. Since the majority of the University of Cape Coast sandwich students perceived the usefulness of mobile banking, the operators of mobile banking are advised to improve on the efficiency of the mobile banking services for all-inclusive adoption of mobile banking. These improved useful nesses will in turn attract other students to also adopt mobile banking to reduce the productive hours used at the banking halls.
3. As the majority of the University of Cape Coast, sandwich students consistently agree to all the indicators of perceived social influences towards mobile banking adoption, the management of the banks located in the university community should monitor the social issues associated with mobile banking and integrate them for holistic implementation. This would ensure that the banks take advantage of the social influence to enhance the adoption of mobile banking.
4. Owing to the finding that the majority of the sandwich students agreed to certain aspects of perceived risk towards mobile banking adoption, while the majority of them disagreed with other aspects of perceived risk towards mobile banking adoption, management of the banks are encouraged to work towards the reduction of such risks. Those risks could be reduced by providing information on the potential threats for the potential adopters of mobile banking to make informed decisions on the mobile banking services to use the ones not to use.

5. Based on the result that the majority of the University of Cape Coast sandwich students perceived the cost associated with the adoption of mobile banking, the management of the banks in the university community is encouraged to reduce the cost of mobile banking services to promote mobile banking adoption among the students. This could be done by improving the ease of use, and usefulness while capitalizing on the social influences and reducing the risks associated with mobile banking so that the adoption will increase for economies of large scale to be enjoyed.

Suggestions for Future Research

To delve deeper into students' perspectives, qualitative methods like interviews and focus groups can complement the existing quantitative data. Expanding the research scope to encompass various student groups within UCC and beyond, conducting longitudinal studies, and analyzing the impact of external factors, such as economic conditions and technological advancements, can provide a more comprehensive view of mobile banking behaviour. Future investigations may explore interventions to promote adoption, assess advanced technology adoption, and consider cross-cultural comparisons. Moreover, examining the broader impact of mobile banking adoption on financial behaviours and well-being can contribute to a more holistic understanding of this evolving landscape. These research avenues will build upon the current study's findings and contribute to a richer comprehension of mobile banking adoption within the academic context.

REFERENCES

Abbas, S. K., Hassan, H. A., Asif, J., Junaid, H. M., & Zainab, F. (2018). What are the key determinants of mobile banking Adoption in Pakistan? *International Journal of Scientific & Engineering Research*, *9*(2), 841-848.

Achieng, B. M., & Ingari, B. K. (2015). Factors influencing the adoption of mobile banking in Kenya's commercial banks: A case of Kenya Commercial Bank (KCB) Kilindini branch. *International Journal of Scientific and Research Publications*, *5*(10), 1-14.

Adomi, E. E. (2006). Mobile phone usage patterns of library and information science students at Delta State University, Abraka, Nigeria. *Electronic Journal of Academic and Special Librarianship,* 7, 1-11.

Adzifome, N. S., & Agyei, D. D. (2023). Learning with mobile devices from a university setting in Ghana. *Education and Information Technologies*, *28*(3), 3381-3399.

Agyei, J., Sun, S., Abrokwah, E., Penney, E. K., & Ofori-Boafo, R. (2020). Mobile banking adoption: examining the role of personality traits. *Sage Open*, *10*(2), https://doi.org/10.1177/2158244020932918

Agyei, J., Sun, S., Penney, E. K., Abrokwah, E., Boadi, E. K., & Fiifi, D. D. (2021). Internet Banking Services User Adoption in Ghana: An Empirical Study. *Journal of African Business*, *23* (3), 599-616.

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes, 50* (2), 179-211.

Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management, 37*(3), 99-110.

Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Williams, M. D. (2016). Consumer adoption of mobile banking in Jordan: Examining the role of usefulness, ease of use, perceived risk and self-efficacy. *Journal of Enterprise Information Management, 29*(1), 118–139.

Alliance for Financial Inclusion. (2013). Mobile financial services basic terminology. http://www.afi-global.org

Alonso-Dos-Santos, M., Soto-Fuentes, Y., & Valderrama-Palma, V. A. (2020). Determinants of mobile banking users' loyalty. *Journal of Promotion Management, 26*(5), 615-633.

Amedahe, F. K., & Gyimah, E. A. (2021). *Fundamentals of educational research methods*. Cape Coast, Ghana: University of Cape Coast Press.

Anyasi, F. I., & Otubu, P. A. (2009). Mobile phone technology in the banking system: Its economic effect. *Research Journal of Information Technology*, *1*(1), 1-5.

Appiah-Gyamerah I., & Amoah, B. (2014). Developing mobile financial services to meet the needs of tertiary students in Ghana. *Research Journal of Finance & Accounting, 5*(18), 216–227.

Arahita, C. L., & Hatammimi, J. (2015). Factors affecting the intention to reuse mobile banking service. *International Journal of Research in Business and Social Science*, *4*(4), 15-23.

Avornyo, P., Fang, J., Antwi, C. O., Aboagye, M. O., & Boadi, E. A. (2019). Are customers still with us? The influence of optimum stimulation level and IT-specific traits on mobile banking discontinuous usage intentions. *Journal of Retailing and Consumer Services*, *47*, 348-360.

Avornyo, P., Fang, J., Odai, R. O., Vondee, J. B., & Nartey, M. N. (2019). Factors affecting continuous usage intention of mobile banking in Tema and Kumasi. *International Journal of Business and Social Science*, *10*(3).

Bakar, R. A., Aziz, N. A., Muhammud, A., & Muda, M. (2017). Perceived ease of use, security and privacy of mobile banking. *Int. J. Bus. Econ. Law*, *13*, 56-62.

Bankole, F. O., Bankole, O. O., & Brown, I. (2011). Mobile banking adoption in Nigeria. *The Electronic Journal of Information Systems in Developing Countries*, *47*(1), 1-23.

Best, J. W., & khan, J. V. (2016). *Education research*. New Delhi, India: Pearson Education India.

Bharti, M. (2016). Impact of dimensions of mobile banking on user satisfaction. *The Journal of Internet Banking and Commerce*, *21*(1).

Changchit, C., & Chuchuen, C. (2018). Cloud computing: An examination of factors impacting users' adoption. *Journal of Computer Information Systems*, *58*(1), 1-9.

Chavali, K., & Kumar, A. (2018). Adoption of mobile banking and perceived risk in GCC. *Banks & bank systems,* 13 (1), 72-79.

Chitungo, S. K., & Munongo, S. (2013). Extending the technology acceptance model to mobile banking adoption in rural Zimbabwe. *Journal of business administration and education, 3*(1), 51-79.

Chong, A. Y. L., Chan, F. T., & Ooi, K. B. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision support systems, 53*(1), 34-43.

Creswell, J. W. (2014). *A concise introduction to mixed methods research*. New York, USA: Sage Publications

Creswell, J. W., & Plano Clark, V. L. (2011). Choosing a mixed methods design. *Designing and conducting mixed methods research, 2*, 53-106.

Cruz, P., Neto, L.B.F., Muñoz-Gallego, P. & Laukkanen, T. (2010). Mobile banking rollout in emerging markets: evidence from Brazil. *International Journal of Bank Marketing, 28*(5), 342–371.

Cudjoe, A. G., Anim, P. A., & Nyanyofio, J. G. N. T. (2015). Determinants of mobile banking adoption in the Ghanaian banking industry: a case of Access Bank Ghana Limited. *Journal of Computer and Communications*, *3*(2), 1-19.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319-340

De Kerviler, G., Demoulin, N. T., & Zidda, P. (2016). Adoption of in-store mobile payment: Are perceived risk and convenience the only drivers? *Journal of Retailing and Consumer Services*, *31*, 334-344.

Dzogbenuku, R. K. (2013). Banking innovation in Ghana: Insight of students' adoption and diffusion. *Journal of Internet Banking and Commerce*, *18*(3), 1.

Elhajjar, S. & Ouaida, F. (2020). An analysis of factors affecting mobile banking adoption. *International Journal of Bank Marketing*, *38* (2), 352-367.

Farah, M.F. (2017). Consumers' switching motivations and intention in the case of bank mergers: a cross-cultural study. *International Journal of Bank Marketing*, *35*(2), 254-274.

Farah, M.F., Hasni, M.J.S. & Abbas, A.K. (2018). Mobile-banking adoption: empirical evidence from the banking sector in Pakistan. *International Journal of Bank Marketing*, *36* (7), 1386-1413.

Gaffar, B. (2009). *Prospects and challenges of mobile banking in Ghana*. MBA thesis, Kwame Nkrumah University of Science and Technology, Ghana. http://hdl.handle.net/123456789/578.

Gandhi, A. (2017). Mobile banking adoption in a developing country like India. *Drishtikon: A Management Journal*, *8*(2), 29

Gecti, F., & Zengin, H. (2013). The relationship between brand trust, brand effect, attitudinal loyalty and behavioural loyalty: A field study towards sports shoe consumers in Turkey. *International Journal of Marketing Studies*, *5*(2), 111.

Gu, J. C., Lee, S. C., & Suh, Y. H. (2009). Determinants of behavioural intention to mobile banking. *Expert Systems with Applications*, *36*(9), 11605-11616.

Hanafizadeh, P., Behboudi, M., Koshksaray, A. A., & Tabar, M. J. S. (2014). Mobile banking adoption by Iranian bank clients. *Telematics and informatics*, *31*(1), 62-78.

Hanafizadeh, P., Behboudi, M., Koshksaray, A. A., & Tabar, M. J. S. (2014). Mobile banking adoption by Iranian bank clients. *Telematics and informatics*, *31*(1), 62-78.

Illia, A., Ngniatedema, T., & Huang, Z. (2015). A conceptual model for mobile banking adoption. *Journal of Management Information and Decision Sciences*, *18*(1), 111.

Jeong, B. K., & Yoon, T. E. (2013). An empirical investigation on consumer acceptance of mobile banking services. *Business and management research*, *2*(1), 31-40.

Karjaluoto, H., Püschel, J., Afonso Mazzon, J., & Mauro C. Hernandez, J. (2010). Mobile banking: proposition of an integrated adoption intention framework. *International Journal of Bank Marketing*, *28*(5), 389-409.

Koksal, M.H. (2016). The intentions of Lebanese consumers to adopt mobile banking. *International Journal of Bank Marketing, 34*(3), 327-346.

Komulainen, H. (2018). Customer's Perspective on Customer Data Usage in Mobile Banking Context. *Journal of Emerging Trends in Marketing and Management*, *1*(1), 34-44.

Konan, J. T. (2021). *Determinants of mobile banking adoption: a case study of Ecobank Togo*. (Doctoral dissertation, Strathmore University, Nairobi, Kenya).

Krejcie, R.V., & Morgan, D. W. (1970). Determining sample size for activities. *Educational and Psychological Measurement, 30*(3), 607-610.

Kwateng, K. O., Atiemo, K. A. O., & Appiah, C. (2018). Acceptance and use of mobile banking: an application of UTAUT2. *Journal of Enterprise Information Management*, *32*, 118–152.

Lai, P. C. (2017). The literature review of technology adoption models and theories for the novelty technology. *Journal of Information Systems and Technology Management*, *14*, 21-38.

Lee, K. C., & Chung, N. (2009). Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified DeLone and McLean's model perspective. *Interacting with computers*, *21*(5), 385-392.

Lwin, N., Ameen, A., & Nusari, M. (2019). Mobile banking adoption among customers within the private commercial banking sector in Yangon, Myanmar. *International Journal of Management and Human Science (IJMHS)*, *3*(2), 44-59.

Makanyeza, C. (2017). Determinants of consumers' intention to adopt mobile banking services in Zimbabwe. *International Journal of Bank Marketing, 35*(6), 997–1017.

McVaugh, J., & Schiavone, F. (2010). Limits to the diffusion of innovation: A literature review and integrative model. *European journal of innovation management*, *13* (2), 197 – 221.

Mehrad, D., & Mohammadi, S. (2017). Word of Mouth impact on the adoption of mobile banking in Iran. *Telematics and Informatics*, *34*(7), 1351-1363.

Mohammadi, H. (2015). Investigating users' perspectives on e-learning: An integration of TAM and IS success model. *Computers in human behavior*, *45*, 359-374.

Mortimer, G., Neale, L., Hasan, S. F. E., & Dunphy, B. (2015). Investigating the factors influencing the adoption of m-banking: a cross-cultural study. *International Journal of Bank Marketing*, *33*(4), 545-570.

Msweli, N. T., & Mawela, T. (2021). Financial Inclusion of the Elderly: Exploring the Role of Mobile Banking Adoption. *Acta Informatica Pragensia*, *10*(1), 1-21.

Narteh, B., Mahmoud, M. A., & Amoh, S. (2017). Customer behavioural intentions towards mobile money services adoption in Ghana. *The Service Industries Journal*, *37*(7-8), 426-447.

Narteh, B., Mahmoud, M. A., & Amoh, S. (2017). Customer behavioural intentions towards mobile money services adoption in Ghana. The Service Industries Journal, 37(7/8), 426–447.

National Communications Authority. (2020). Telecom voice subscription for December2020.https://www.nca.org.gh/assets/Uploads/Industry-Information -DECEMBER-2020.pdf

Offei, M. O., & Nuamah-Gyambrah, K. (2016). The contribution of electronic banking to customer satisfaction: A case of GCB bank limited Koforidua. *International Journal of Managing Information Technology*, *8*(1), 1-11.

Ogah, J.K. (2013). *Decision making in the research process: companion to students and beginning research*. Legon, Accra: Adwinsa Publication.

Owusu, G. M. Y., Bekoe, R. A., Addo-Yobo, A. A., & Otieku, J. (2021). Mobile banking adoption among the Ghanaian youth. *Journal of African Business*, *22*(3), 339-360.

Paluch, S., & Wünderlich, N. V. (2016). Contrasting risk perceptions of technology-based service innovations in inter-organizational settings. *Journal of Business Research*, *69*(7), 2424-2431.

Porteous, D. (2006). *The enabling environment for mobile banking in Africa*. Department for International Development (DFID)

Pousttchi, K., & Schurig, M. (2004, January). Assessment of today's mobile banking applications from the view of customer requirements. In *37th Annual Hawaii International Conference on System Sciences, 2004. Proceedings of the* (pp. 10-pp)

Puriwat, W., & Tripopsakul, S. (2017). Mobile Banking Adoption in Thailand: An Integration of Technology Acceptance Model and Mobile Service Quality. *European Research Studies*, *20*(4), 200-210.

Qasim, H., & Abu-Shanab, E. (2016). Drivers of mobile payment acceptance: The impact of network externalities. *Information Systems Frontiers*, *18*(5), 1021-1034.

Ravichandran, D., & Madana, M. H. B. A. H. (2016). Factors influencing mobile banking adoption in Kurunegala district. *Journal of Information Systems & Information Technology*, *1*(1), 24-32.

Raza, S. A., Umer, A., & Shah, N. (2017). New determinants of ease of use and perceived usefulness for mobile banking adoption. *International Journal of Electronic Customer Relationship Management*, *11*(1), 44-65.

Rogers, E. M. (1995). *Diffusion of Innovations: modifications of a model for telecommunications*. In Die diffusion von innovationen in der telekommunikation (pp. 25- 38). Springer, Berlin, Heidelberg.

Safeena, R., Date, H., Kammani, A., & Hundewale, N. (2012). Technology adoption and Indian consumers: study on mobile banking. *International Journal of Computer Theory and Engineering*, *4*(6), 1020.

Sahu, A., & Deshmukh, G. K. (2020). Mobile banking adoption: a review. *Journal of Critical Reviews*, *7*(2), 860-872.

Sakala, L., & Phiri, J. (2019). Factors Affecting Adoption and Use of Mobile Banking Services in Zambia Based on TAM Model. *Open Journal of Business and Management*, *7*(3), 1380.

Salaria, N. (2012). Meaning of the term descriptive survey research methods. *International Journal of transformation in business management*, *1*(6), 1-7.

Saunders, M. N., & Lewis, P. (2012). *Doing research in business & management: an essential guide to planning your project*. New York: Pearson.

Saxena, N., Gera, N., & Taneja, M. (2022). An empirical study on facilitators and inhibitors of adoption of mobile banking in India. *Electronic Commerce Research*, 1-32.

Sevcik, P. (2004). Innovation diffusion. *Business Communication Review, 34*(9), 8-11.

Shaikh, A. A., & Karjaluoto, H. (2015). Making the most of information technology & systems usage: A literature review, framework, and future research agenda. *Computers in Human Behaviour, 49*, 541-566.

Sheng, M., Wang, L., & Yu, Y. (2011). An empirical model of individual mobile banking acceptance in China. In *2011 International Conference on Computational and Information Sciences* (pp. 434-437). IEEE.

Singh, S., & Srivastava, R. K. (2018). Predicting the intention to use mobile banking in India. *International Journal of Bank Marketing, 36*(2), 357-378

Szajna, B. (1996). Empirical evaluation of the revised technology acceptance model. *Management Science*, *42*(1), 85-92.

Tam, C. & Oliveira, T. 2017. Literature review of mobile banking and individual performance. *International Journal of Bank Marketing, 35*(7), 1044-1067.

Tiwari, R. & Buse, S. (2007). *The Mobile Commerce Prospects: A Strategic Analysis of Opportunities in the Banking Sector*. Hamburg University Press: Hamburg.

University of Cape Coast. (2022). The profile of the University of Cape Coast. https://www.ucc.edu.gh/

World Bank (2009). *The infinite potential of mobile banking.* Retrieved from htpp://psdblog.worldbank.org/psd.

Yin, R. K. (2015). *Qualitative research from start to finish*. New York, USA: Guilford

APPENDICES

APPENDIX A: QUESTIONNAIRE

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

SCHOOL OF BUSINESS

DEPARTMENT OF MANAGEMENT

Dear respondent, this questionnaire is being administered to collect data as part of research on the topic: Determinants of mobile banking adoption among University of Cape Coast sandwich students. This research is purposely for academic work and any information given shall be treated confidentially. Hence, respondents are kindly requested to provide truthful information.

INSTRUCTION TO RESPONDENTS

Please read questions and tick [√] appropriately or supply responses where applicable.

SECTION A: Demographic Data of Respondent

1. Gender: Male [ ] Female [ ]
2. Age in years: below 20 [ ] 20-24 [ ] 25-29 [ ] 30-34 [ ] 35-39 [ ] 40-44 [ ] 45-49 [ ] 50 and above [ ]
3. Programme Level: Undergraduate [ ] Postgraduate [ ]

SECTION B: Perceived ease of use towards mobile banking adoption

The following statement describes the perceived ease of use towards mobile banking adoption among University of Cape Coast sandwich students. Please tick [√] against the response you choose where applicable.

Ratings: 1= Disagree (D), 2= Neutral (N) and 3= Agree (A)

STATEMENT	D	N	A
1. Mobile banking is easy to use			
2. Mobile banking is clear and understandable			
3. It will be simple for me to become skilful at using mobile banking			
4. The user menus are categorised and well laid out on the screen			

SECTION C: Perceived usefulness towards mobile banking adoption

Please indicate by ticking [√] your level of agreement that relates to the perceived usefulness towards mobile banking adoption among University of Cape Coast sandwich students.

Ratings: 1= Disagree (D), 2= Neutral (N) and 3= Agree (A)

STATEMENT	D	N	A
1. Mobile banking is useful for performing my transactions.			
2. Using mobile banking services improves my efficiency in conducting my banking transactions.			
3. Mobile banking permits me to do my financial transactions quicker			
4. I think mobile banking makes it easier for me to do my banking transactions			

5. Using mobile banking services saves a lot of time.			

SECTION D: Social influence towards mobile banking adoption

Please read the questions and tick [√] appropriately your level of agreement that relates to social influence towards mobile banking adoption among University of Cape Coast sandwich students.

Ratings: 1= Disagree (D), 2= Neutral (N) and 3= Agree (A)

STATEMENT	D	N	A
1. Individuals who are vital to me feel that I should use mobile banking			
2. Relatives and friends might impact my choice to use mobile banking			
3. Most people surrounding me use mobile banking.			
4. Various social media platforms can influence my decision to use mobile banking services			

SECTION E: Perceived risk towards mobile banking adoption

Please read the questions and tick [√] appropriately your level of agreement that relates to perceived risk towards mobile banking adoption among University of Cape Coast sandwich students.

Ratings: 1= Disagree (D), 2= Neutral (N) and 3= Agree (A)

STATEMENT	D	N	A
1. Information with respect to my mobile financial transactions can be altered by others			
2. I think mobile banking services are more risky when compared with other banking services			
3. I am worried that my PINs will be forgotten and end up in the hands of the wrong person			
4. I fear that I might end up sending money to the wrong people			
5. It can easily happen that money can be taken assuming mobile banking services are used			
6. Carrying out financial transactions on a mobile phone is unsafe because one can undoubtedly lose it			
7. I believe that privacy is not ensured while using mobile banking services.			
8. I have serious doubts that financial transactions performed on a mobile phone will work sufficiently			

SECTION F: Perceived cost towards mobile banking adoption

Please read the questions and tick [√] appropriately your level of agreement that relates to the perceived cost towards mobile banking adoption among University of Cape Coast sandwich students.

Ratings: 1= Disagree (D), 2= Neutral (N) and 3= Agree (A)

STATEMENT	D	N	A
1. I am of the view that mobile banking services are more expensive than traditional banking services.			
2. I think that mobile operator charges in the form of subscription fees (e.g., sending SMS alerts) are expensive regarding mobile banking usage.			
3. I am of the view that transaction charges are high.			
4. I am of the view that the cost of buying a new mobile phone to use mobile banking services is high.			
5. I believe that using mobile banking services is costly.			

APPENDIX B: ROTATED COMPONENT MATRIX[A]

	Component				
	1	2	3	4	5
Mobile banking is easy to use		.640			
Mobile banking is clear and understandable		.732			
It will be easy for me to become skilful at using mobile		.733			
The user menus are categorised and well laid out on the screen		.741			
Mobile banking permits me to do my financial transactions quicker				.712	
I think mobile banking makes it easier for me to do my banking transactions				.726	
Using mobile banking services saves a lot of time.				.753	
Individuals who are vital to me feel that I should use mobile banking					.756
Relatives and friends might impact my choice to use mobile banking					.786
Various social media platforms can influence my decision to use mobile banking services					.657

Information with respect to my mobile financial transactions can be altered by others	.663				
I think mobile banking services are more risky when compared with other banking services	.705				
I am worried that my PINs will be forgotten and end up in the hands of the wrong person	.722				
I fear that I might end up sending money to the wrong people	.746				
It can easily happen that money can be taken assuming mobile banking services are used	.761				
Carrying out financial transactions on mobile phones is unsafe because one can undoubtedly lose it	.682				
I believe that privacy is not ensured while using mobile banking services.	.672				
I have serious doubts that financial transactions performed on a mobile phone will work sufficiently	.632				

I am of the view that mobile banking services are more expensive than the traditional banking services			.662		
I am of the view that mobile operator charges in the form of subscription fees (e.g., sending SMS alerts) are expensive regarding mobile banking usage			.812		
I am of the view that transaction charges are high			.561		
I believe that using mobile banking services is costly			.800		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. [a]

a. Rotation converged in 6 iterations.

APPENDIX C: INTRODUCTORY LETTER

UNIVERSITY OF CAPE COAST
COLLEGE OF HUMANITIES AND LEGAL STUDIES
SCHOOL OF BUSINESS
DEPARTMENT OF MANAGEMENT

Telephone: 0362196709
Direct: (03320) 96923
Telegrams: University, Cape Coast
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E-mail: dmgt@ucc.edu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

2nd August, 2022

Your Ref:

Dear Sir/Madam,

INTRODUCTORY LETTER – Miss. Theresa Agbesi

The bearer of this letter, Miss. Theresa Agbesi (SB/MGM/20/0020) is MBA (Management) student of the above Department. She is conducting a research on the topic **"DETERMINANTS OF MOBILE BANKING ADOPTION AMONG UNIVERSITY CAPE COAST SANDWICH STUDENTS".**

We would be very grateful if she is given the necessary assistance to enable her commence for data collection for her research.

Thank you for your cooperation.

Yours sincerely,

MR. ISAAC KOSI
Email: ikosi@ucc.edu.gh
SUPERVISOR