

# **Factors Affecting Mobile Banking Usage Among EMU Student**

**Toheeb Temitope Makinde**

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Approval of the Institute of Graduate Studies and Research

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Prof. Dr. Ali Hakan Ulusoy  
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Business Administration.

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Prof. Dr. Melek Sule Aker  
Chair, Department of Business  
Administration

We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Master of Business Administration.

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Assoc. Prof. Dr. Emrah Oney  
Supervisor

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Examining Committee

1. Assoc. Prof. Dr. Emrah Oney

2. Asst. Prof. Dr. Iman Aghaei

3. Asst. Prof. Dr. Mehmet Islamoglu

## **ABSTRACT**

Mobile banking has helped students to execute several transactions more swiftly and comfortably without needing to often visit the bank. The popularity of these services needs more findings to be carried out about their usage. This study aims to identify the elements that affect EMU students' use of mobile banking. It is also set to examine if the factors positively or negatively affect the use of the service. To create the model for this study, five distinct factors were chosen from numerous academic models on technological acceptability. The study incorporated perceived security, perceived cost, awareness, PEOU, and social influence as the independent variables.

To achieve these objectives, the study used a questionnaire as a quantitative research tool to gather information from 217 participants drawn from Eastern Mediterranean University students. The responses were coded and analyzed using IBM SPSS 20 software. The study found perceived security, awareness, PEOU, and social influence to affect mobile banking usage positively and significantly among EMU students, while perceived cost was removed from the factors since its Cronbach's Alpha coefficient was not up to the normal threshold of (0.6).

According to the analysis, the research indicated that the above factor had a significant positive impact on EMU students' usage of mobile banking. This may be because of the confidence they have in their banks to supply adequate security, awareness, and easy-to-use websites and applications. Even while mobile banking is convenient for many, the minority who are skeptical of the system should be persuaded to change their minds. Banks must also consider all other aspects affecting

mobile usage and devise ways to meet their needs and expectations. Finally, future studies can make use of demographics like age, culture, income level, etc., as moderators in mobile banking research.

**Keywords:** mobile banking, perceived security, PEOU, awareness, social influence.

## ÖZ

Mobil bankacılık, öğrencilerin bankayı sık sık ziyaret etmek zorunda kalmadan herhangi bir yerden birkaç işlemi daha hızlı ve rahat bir şekilde gerçekleştirmelerine yardımcı olmuştur. Bu hizmetlerin popülaritesi, kullanımla ilgili daha fazla bulgu yapılmasını gerektirmektedir. Bu araştırma, DAÜ öğrencileri arasında mobil bankacılık kullanımını etkileyen faktörleri belirlemeyi amaçlamaktadır. Ayrıca, faktörlerin hizmetin kullanımını olumlu veya olumsuz etkileyip etkilemediğini incelemek üzere ayarlanmıştır. Bu çalışmanın modelini oluşturmak için çeşitli bilimsel teknoloji kabul modellerinden beş faktör seçilmiştir. Çalışma, algılanan güvenlik, algılanan maliyet, farkındalık, karmaşıklık ve sosyal etkiyi bağımsız değişkenler olarak dahil etmiştir.

Bu hedeflere ulaşmak için çalışma, Doğu Akdeniz Üniversitesi öğrencilerinden alınan 217 katılımcıdan veri toplamak için bir anket kullanarak nicel bir araştırma yöntemi benimsemiştir. Yanıtlar, IBM SPSS 20 yazılımı kullanılarak kodlandı ve analiz edildi. Çalışma, DAÜ öğrencileri arasında mobil bankacılık kullanımını olumlu ve anlamlı bir şekilde etkileyen algılanan güvenlik, farkındalık, karmaşıklık ve sosyal etkiyi bulurken, Cronbach's Alpha katsayısı standart eşiğe (0.6) kadar olmadığı için algılanan maliyet faktörlerden çıkarıldı.

Bulgulara dayanarak, yukarıdaki faktörlerin DAÜ öğrencileri üzerinde mobil bankacılık kullanımı açısından anlamlı bir olumlu etkiye sahip olduğu sonucuna varılmıştır. Bunun nedeni, bankalarına yeterli güvenlik, farkındalık ve kullanımı kolay web siteleri ve uygulamalar sağlamak için sahip oldukları güven olabilir. Mobil

bankacılık birçok kiři için uygun olsa da, sisteme řüpheyle yaklaşan azınlık fikirlerini değıştirmeye ikna edilmelidir. Bankalar ayrıca mobil kullanımı etkileyen diğerk tüm yönleri de göz önünde bulundurmalı ve ihtiyaçlarını ve beklentilerini karşılamanın yollarını tasarlamalıdır. Son olarak, gelecekteki çalışmalar yaş, kültür, gelir düzeyi gibi demografik bilgileri mobil bankacılık arařtırmalarında moderatör olarak kullanabilir.

**Anahtar kelimeler:** mobil bankacılık, algılanan güvenlik, karmaşıklık, farkındalık, sosyal etki.

## **DEDICATION**

This thesis is dedicated to my wonderful father, late. Chief M.A Makinde, my strong pillar, my source of inspiration, wisdom, and knowledge. May his gentle soul rest in peace.

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## **LIST OF ABBREVIATIONS**

ANOVA	Analysis of Variance
ATM	Automated Teller Machine
DIT	Diffusion Innovation Theory
ECM	Expectation-Confirmation Model
EMU	Eastern Mediterranean University
IT	Information Technology
IS	Information Service
MBA	Masters in Business Administration
PEOU	Perceive Ease of Use
PIN	Personal Identification Number
PU	Perceived Usefulness
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
TPB	Theory of Planned Behavior
TRNC	Turkish Republic of North Cyprus
WIFI	Wireless Fidelity

# **Chapter 1**

## **INTRODUCTION**

### **1.1 Background to the Study**

The rates of technological development and global population growth have resulted in a slight shift in the banking sector's operations internationally. For a competitive advantage over their rivals, most banks incorporated information communication technology (ICT) into banking as a means of supplying quality services to their customers and aiding them in performing their daily transactions. This technological innovation has altered the method in which the banking industry supplies superior services to its consumers. Mobile banking has enabled students to conduct a variety of transactions more quickly and conveniently from any place without having to visit the bank regularly. The popularity of these services needed their inclusion in the contemporary banking sector, as mobile banking customers continued to grow. Due to the technology used to provide services through a wireless-enabled network, the bank may reply to consumers with different transactions quickly and conveniently from any place. Customers willing to pay for goods purchased online and other services such as airtime recharge, using an e-Wallet, funds transfers, utilities, and a credit application can do so without restriction. As a result, the usefulness of conventional banking services is being increasingly diminished by the usage of the internet and mobile banking, which does not require account holders or users to visit a bank or ATM to conduct daily transactions.



According to Driga (2014), “mobile banking” is defined as “an online system that uses applications and websites to ease banking transactions. This system enables bank customers to access their account and obtain general information about the bank’s products and services directly via a personal computer, mobile phone, or other delivery channels.” Mobile banking refers to the activities that occur when financial transactions are conducted using cellular devices (Riquelme, 2010). The rising usage of smartphones allows m-banking services, pushing banks, software designers, and other associated service providers to offer this novel service to improve operational efficiency, market share, and customer satisfaction. (Shaikh,2016). With the advent of m-banking, banks can keep their present consumers while expanding their customer base. They also have a chance to convert mobile phone users into customers (Gu et al.,2009). By just having a smartphone, millions of individuals throughout the globe might get access to financial services that are now unavailable to them. By reducing the time and distance to the nearest bank branch and the bank’s transaction-related costs, basic financial services may become more readily available (Ismail & Masinge, 2011).

Banking is influenced by the global economy and competitive marketplaces, and technologies are the main driver of removing political, geographical, and industrial barriers and producing new products and services. Given the current data, mobile phone prevalence is greater than that of any other technological advancement. Because of this, mobile commerce has been transformed into a worldwide revolution (Monfared, 2013). The service of mobile banking is new. There is a chance that, in comparison to other types of electronic banking, it will not ever find a position in modern banking. As a result, deciding the elements that impact customer choices to use mobile banking is vital.

## **1.2 Statement of the Problem**

Over the years, businesses such as commercial banks have spent much on their work processes to supply superior services to their customers. Most banks have hired a lot of personnel to aid their clients with their everyday operations, which may involve establishing an account, printing bank statements, transferring money between banks, customer complaints, deposits, and cash withdrawals. Recently, because of technological advancement, the banking sector implemented internet banking which entails the use of websites and mobile applications. This had made it easier and more convenient for students in North Cyprus to conduct daily transactions from their various locations without visiting the bank.

Despite the banks' efforts, most students in North Cyprus have been denied quality financial services. This could be a result of the banking sector paying little or no attention to students in the areas of perceived security, perceived cost, awareness, perceived ease of use, and social influence, all of which impact students' use of mobile banking in North Cyprus. Thus, it is against this background that the researcher wants to discover in this thesis, which are the factors affecting mobile banking usage among students.

## **1.3 Aims and Objectives of The Study**

The study's aims deal with looking at many characteristics that impact mobile banking usage among students at Eastern Mediterranean University (TRNC). Specific objectives are:

- To examine the relationship between perceived security and usage of mobile banking among EMU students.

- To examine the relationship between perceived cost and the usage of mobile banking among EMU students.
- To examine the relationship between awareness and the usage of mobile banking among EMU students.
- To examine the relationship between perceived ease of use and the usage of mobile banking among EMU students.
- To examine the relationship between social influence and the usage of mobile banking among EMU students.

## **1.4 Sampling and Data Collection**

A non-probability sampling strategy with the conventional approach was used in this study. Our surveys were completed by 217 students at Eastern Mediterranean University (TRNC). There are two parts to the questionnaire:

1. Part A: Demographic assessments to investigate their relationship to the subject at hand. To show if the respondent is a “user” or “non-user” was also included.
2. Part B: Respondents are questioned about their view on the impact of perceived security, perceived cost, awareness, perceived ease of use, and social influence.

## **1.5 Research Hypotheses**

Considering what we discussed so far; the following hypothesis was derived:

**H1:** Perceived security has a positive and significant effect on mobile banking usage among EMU students.

**H2:** Perceived cost has a positive and significant effect on mobile banking usage among EMU students.

**H3:** Awareness has a positive and significant effect on mobile banking usage among EMU students.

**H4:** Perceived Ease of Use has a positive and significant effect on mobile banking usage among EMU students.

**H5:** Social Influence has a positive and significant effect on mobile banking usage among EMU students.

## **1.6 Significance of Study**

This research will be beneficial to all banking institutions that aim at increasing the service given to the public and increasing consumer satisfaction. This study will aid the researcher in completing the MBA program. After this study, it would serve as a reference for other researchers on a similar topic.

## **1.7 Structure of Thesis**

This research is divided into six chapters, as shown in the table below.

Table 1: Thesis outline

<b>Chapter 2</b>	<b>Literature Review</b>
<b>Chapter 3</b>	Model & Hypothesis
<b>Chapter 4</b>	Methodology
<b>Chapter 5</b>	Data Analysis & Discussion
<b>Chapter 6</b>	Recommendation & Conclusion

Chapter 2 discusses mobile banking in length, including the several definitions accessible for this concept, its characteristics, antecedents, classifications, and differences from other related notions. Several theories that contributed to factors affecting mobile banking were detailed. Additionally, we characterized all our independent variables as follows: perceived security, perceived cost, awareness,

perceived ease of use, and social influence. Chapter 3 covers the research and the hypotheses to be investigated. In addition, we provided our factors' relationships with mobile banking usage from past studies. In chapter 4, we discussed the study design and the questionnaire steps. We also explained our data collection strategy, sample selection, and procedure, also with the scale employed in the questionnaire design. Chapter 5 discussed all our analytical tests: descriptive analysis, reliability test, T-test, one-way ANOVA, correlation, and regression. We supplemented the findings with our assessment of the supported and unsupported hypotheses. Chapter 6 discusses the results and their application, also the limits and future study suggestions.

## **Chapter 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

##### **2.1.1 The History of Internet and Mobile Banking**

An aspect of banking is mobile and internet banking which serves as a foundation for creating network systems, services, and transactions for individual and commercial banking. Banks were established in remote locations and branches were made available for non-physical services.

In the 1980s the use of the internet in various homes was on the increasing side, and the idea of online banking and mobile banking appeared (Cartwright, 2000). Banks and other financial entities from Europe and the United States started to welcome "home banking" for learning and planning in the 1980s. Customers originally used significantly more modern Internet facilities to contact others (Sarel & Marmorstein, 2003). During the year 1996, when Netbank was formed, it became the United States' first bank to employ an internet banking system. Atlanta internet e-banking was also formed in the same year. Wells Fargo and Citibank joined in setting up the internet in the year 2001 (Gefen & Straub, 2005) "47 percent of adults in the United States and 30 percent of adults in the United Kingdom use banking," according to 2009 Gartner Group research. (Ozlem, 2012). In 1997, DBS Bank became the first bank in Singapore to offer financial services over the Internet. Then UOB, OCBC, and more financial institutions appeared (Gerrard et al., 2006). Turkish banks started to expand

their international automation standards using innovative technology in the 1990s. The first private bank in Turkey, Türkiye's Bankas Ltd., provided electronic banking to its clients in 1987, establishing the framework for ATMs (Polatoglu & Ekin, 2001).

With the declaration of the Republic of Turkey, the state assumed an active involvement in the financial system to develop the national banking industry. The Foreign capital bank was joined by the private and public capital banks during that period. Along with economic and financial deregulation in the early 1980s, significant developments occurred in the Turkish banking industry. (Yildirim, 2015) said that there was an increase in the speed and rate of structural changes in the industry at once after the interest rate and foreign currency rate limits were abolished. Additionally, to such organizational and revolutionary changes, the credit card, Automated Teller Machines, Mobile banking, and other methods of banking generated by technological advancement had the bank's profit rate by the end of the 1980s (Ozdemir, 2007).

The Turkish banking sector was based on bank branches in the 1980s; however, Türkiye's bank pioneered the use of online banking applications by supplying ATMs to the market. They made use of telephones, point of sales machines, and online services, Türkiye, on the other hand, offered them in the mid-1990s (Poatoglu & Ekin, 2011). Garanti Bank launched internet banking services in the same year. Following the introduction of electronic banking services to users by Garanti Bank, Pamuk Bank, Eubank, AK bank, and Yapi Kredi Bank (Pala & Kartal, 2010).

However, economic events in the country had a detrimental impact on the finance of the banking industry over these years. They had to run in high-risk conditions as a result of increasing public sector lending and the usage of public banking resources in the financial budget. The financial sector faced a crisis as the year 2000 approached. The revisions to the bank legislation were adopted to rebuild the sector and alleviate structural financial concerns. Additionally, to the rehabilitation activities, as globalization drifts intensified, modifications in service and product quality were implemented to offer incorporation of banks in Turkey to worldwide markets (Yildirim, 2015). Turkish banks are now making significantly investing in online banking. many banks already provided online banking since people are unfamiliar with internet banking and its safety, online banking growth in Turkey has been restricted (Yardimcioglu et al., 2012). Internet banking services have grown in popularity due to increased computer literacy, financial sector regulation, and bank customers' desire for more convenient electronic services and lower transaction costs. However, safety and a lower-than-expected adoption of online banking in Turkey have its growth at a slow pace. The total number of clients had risen to 11.793 million as of March 2009. There was a 1.791 million-person increase over the previous year. According to estimates, there were 6.344 million unique clients last year who logged in to the system (<http://www.finansgundem.com>, 09.28.2009). 4.838 million Distinct customers, from January to March 2009, or 41% used the Internet to conduct at least one financial transaction. This illustrates that Internet banking use in Turkey is lower compared to other industrialized European countries and Asian countries, but greater than in underdeveloped countries (Ozlem, 2012).



### **2.1.2 Pros and Cons of Adopting Mobile Banking**

User-friendly, easy to use, saves time, control over service delivery, reduces cost, and not forgetting technology are all key factors in banking. Entertainment is used by (Curran & Meuter, 2008; Ho & Ko, 2005). Consumer beliefs about some of the alleged benefits and drawbacks of internet banking were based on the yearly online publishing Basics (2009). Their details are described further down.

Transaction speed/cost savings Internet banking allows for rapid transactions that are both cost-effective and faster than transactions made at ATMs or banks. Also, efficiency relates to the capacity to readily access, manage, and regulate one's bank accounts, which includes all types of bank accounts. Likewise, in terms of convenience, unlike conventional physical banking, which is usually simple, internet banking services are constantly and always available. Processing is completed with a single mouse click. Another advantage is effectiveness which is defined as online Banking that allows you to manage your money, investments, and bank accounts without having to go to the bank. You may also receive alerts or mail transactions. Online bill payment is convenient, it is easier to acquire information, and moving all the money is simply because it is a free service.

Mobile banking has brought us closer together, allowing transactions to be completed regardless of the location of university students. The global village has shrunk as a result of mobile banking. Also, automation of procedures for university students implies that operations are now easier, less demanding, cheaper, and more cost-efficient. When compared to the period before the banking application, mobile banking transactions take less time to complete. Fewer mistakes have been made since mobile banking has been used. Furthermore, diversity among university

students in terms of nation and culture may make financial transactions on the fly, which enables the international trade of commodities. Another advantage is the extended hours of work which implies that the hours of work have been stretched from Monday to Friday, 8 AM. to 5 PM. University students may transact flexibly because the business is operating around the clock, every day of the week. This is true for all firms throughout the world. University students may now make purchases at any time and from any location. Likewise, many banking services are being used in supplying novel items to university students. Moreover, to keep present university students, Banks and MNOs are increasing the quality of their products and services and are making new services available. Better accessibility than traditional banking is another advantage of mobile banking because banking with mobile is a free service; it will reach a larger number of university students. To use mobile banking on the move, the university student must be connected to the network. Furthermore, because collaborative contact between university students and the mobile banking service is made available, paying bills, checking account balances, making purchases, and so on, people no longer need to queue in the banking hall.

All these above advantages were cited according to Chitungo & Munongo, (2013); Railienoa (2014); Shaikh, (2013); (Cavus & Chingoka, 2015). As mentioned by Basic (2009), the downsides of Internet banking are counted. All of these are based on consumer feedback.

Customers will certainly have to sign a form to enroll in an online program and validate at a bank branch. Keeping track and managing both your and your partner's savings and property online requires consultation with a lawyer and revealing information about all the bank's stock and assets must be done before the signing of

the durable power attorney. Updates on banks' websites since commercial banks upgrade and introduce new features often, which may require you to re-validate your logins before you can access your account details. Also, the issue of security, to ease of use of internet banking technology, a variety of consumers assume banking online is open to everyone and therefore it is not safe to use. Furthermore, at first appearance, banking websites might be difficult to manage. It takes some time and/or money to study lessons for the digital lobby to be eased. Also, the issue of trust, for many people, the most difficult aspect of internet banking is learning to trust it. How true is the procedure of making a transaction? How many times did you make the transfer, once or twice? The simplest approach to eliminate doubt is to display it on the website, print out bank statements, and always safeguard them. Due to various internet banking benefits offered by banks nowadays, banks rather than their consumers are more urged to make use of online banking. Users of internet banking may make use of all this to reduce these barriers, save money and time, and preserve energy.

Due to problems in the internet communications network architecture, internet banking has a long response time or complaints, which slows down the process (Speece & Rotchanakitumnuai, 2003). Likewise, customer banking websites may be quite complicated and time-consuming. A few sites have been forced to offer appropriate customer service by compelling customers' bank personnel (Mescon et al, 2002). University students are at risk of receiving phony communications from programmers and con artists. This occurs when a student receives fake mail from a scammer requesting their bank account details. Lastly, when users lose their mobile phones, it raises the possibility that their data will be illegally accessed, allowing access to their mobile banking PIN. University students are put in jeopardy when

their mobile devices are stolen because most mobile devices are programmed to store login details, or they use passwords that can be hacked easily.

### **2.1.3 Mobile Banking in Cyprus**

(Zhou et al., 2010; lin, 2011; Aboelmaged & Gebba, 2013) included banking through mobile in the list of most advanced technology university students use. Commercial banks, financial institutions, and network operators provide university students the transaction using various mobile phones namely, smartphones, smart wristwatches, cellular phones, tablets, and PDA (personal digital assistance), shaikh & Karjaluoto (2015). According to Oliviera et al., (2014), mobile banking is a way to access a bank account, check balances, pay bills, make deposits, and transfer funds via a mobile device. Access to the account can be made via connecting to the internet (WIFI, internet data, or fiber optic cable), (Zhou, 2010) or by sending an SMS (short message signal) or dialing a phone number through a mobile network. Nowadays, students at the institution do not have to be fully present in the bank to do transactions. Account details can be accessed from anywhere in the world. Mobile banking is, in many ways, an extension of e-commerce (Luo et al., 2010). Ecocash, One Wallet, and Tele cash are a few services created by private firms used along with commercial mobile banking in Zimbabwe (Chitungo & Munongo, 2013).

Driga (2014) defined Internet banking as “a more sophisticated banking approach that uses a website, a platform that gives customers access to account details and gets necessary general information about products and services rendered by the bank through various computers and mobile devices. Oliviera et al. (2014), said that “online banking is like mobile commerce that enables customers to adapt financial transactions to their mobile devices. Customers may also conduct financial operations which include bills payable, sales and purchases, etc. One of the typical

phases in traditional banking services is internet banking,” according to Maitlo (2015). To turn the old banking system into online banking, banks may use online banking to expand their operations by cutting costs more effectively. Furthermore, Shaikh & Karjaluoto (2015) described internet banking as a financial institution’s service or product that allows users to perform monetary operations using smart devices such as smartphones or tablets. Online banking may give ease in completing financial transactions and readily get transaction-related information without being physically present in the bank to execute activities like paying utility bills, booking a hotel, checking account balance, etc. Banks have adopted mobile banking as a more contemporary approach for gathering data and aiding customers in interacting effectively, efficiently, and effortlessly.

Online banking according to Pace (2016) is a payment system that grants users access to perform different financial transactions that can only be performed in the banking hall but can be completed over the internet, while, Koksai (2016) in his findings claims that any sort of banking activity related to mobile devices can be done via online banking. As a result, using mobile banking became a popular medium. The variety of services made available by banks to customers proves that anybody may conduct financial or commercial activities from anywhere they have access to a computer or a mobile phone. Smartphone banking is a word that refers to using a mobile-based device, such as a Smartphone, to check account balance, histories of transactions made, payments, money transfers, and other money-related operations. It consists of enhanced technological services for mobile banking that serve as the foundation for electronic banking and financial services. Despite its limitations, the use of smartphone banking is becoming generally accepted in many countries, particularly with the successful penetration of smart devices, such as the

iPhone, Samsung phones, and Sony phones, which have resulted in the fast growth in the use of mobile banking, Smartphones banking services were originally launched in South Korea in 2000, and have since increased in popularity to be featured among the country's most extensively used application, since smartphone users account for 51.8 percent of the total internet users. A well-developed telecommunications infrastructure has led to increased internet usage, faster bandwidth, and additional connections around the nation, including several wireless connections. It explains how a user accepts and adjusts to the use of a given technology. He contended that the general adoption of technology is influenced by perceived ease of use and perceived usefulness. The perceived usefulness determines use acceptability since it is dependent on the competence of the innovative technology that will help boost work performance (David, 1989). Favorable performance and beneficial outcomes should be provided by the technology. Perceived ease of use as described by Fred Davies, is the ease with which an individual can use innovative technology. It simply means that cutting-edge technology needs to be as user-friendly as feasible. The one constant in our quickly expanding world is changing, and the banking sector is no different. (Ikpefan & Agwu, 2015).

## **2.2 Factors Influencing Mobile Banking**

Customer preferences and the factors affecting them, understanding the elements that influence Internet banking acceptance will help to expand the use of the service. Furthermore, the range of services supplied and the bank's reputation are the most crucial elements to consider when choosing a bank. According to McKechine (1992), internet banking is more accessible due to its convenience and ease of use. Two primary elements influence the use of banking services at any moment. Customer behaviors have shifted because of the growth of Internet banking. One of the most

significant advantages of Internet banking transactions, according to Ekin and Polatoglu (2001), is the cheap cost. It is crucial to reflect the design preferences and suggestions of customers who use internet banking since, about Vrechopoulous and Atherinos (2009), a bank website design impact internet use. Customers must trust that Internet banking is safe for them to profit from it. Cod, Ekberg, and Li (2007) investigated Sweden's four major banks to decide the best recommendations to follow when deciding which online banks to use. A biometric technique must be applied since passwords are not sufficient for security, according to Zhu (2009). Three aspects of internet banking security are taken into consideration: messages sent back and forth between the bank and the consumer to ensure that the criteria are satisfied; financial data provided to clients through the internet that the third party cannot see; and the screening of a person once this movement is completed to figure out identification.

Perceived Usefulness (PU) is a key part of the Technology Acceptance Model (TAM), which can be explained as "the degree to which an individual feels that utilizing a certain system will improve his or her work performance." (Davies, 1989) defined perceived usefulness as an individual's work effectiveness, productivity as a time-saving measure, and the system's relative relevance to the individual's employment. When it comes to m-banking adoption, perceived usefulness refers to customers' belief that m-banking would improve their ability to access bank services. According to several other studies on the acceptance of innovative technologies, perceived utility influence is strong on the willingness to make online purchases (Tong, 2010). In addition, (Barnes & Chen, 2007) discovered perceived usefulness as one of the most significant factors influencing customers' online behavior. Furthermore, the perceived usefulness of banking online has a significant influence

on consumers' willingness to use electronic banking, according to research conducted in several countries (Amin, 2009; Lin & Tan, 2010). Furthermore, earlier research has found that PU has an impact on m-banking uptake (Ghalandari et al., 2013; Kazi & Mannan, 2013).

Perceived Trust: is referred to as the notion or idea that someone or something is reliable, admirable, moral, or effective. Concerning mobile banking, trust is understood as a person's conviction that using mobile banking is risk-free in terms of security and privacy. When it comes to online banking, customers must trust the bank's online platform to complete a transaction, which can be considered vital and difficult (Chong, Lin & Tan 2010). In Pakistan society, having trust in the internet and the government has been noted as a major part of the acceptance and usage of government services (Esichaiku & Rehman, 2011). Confidence in a website, according to Warwick and Goode (2010) has a major influence on the willingness to buy anything online. Xin, Techatassanasoontorn, & Tan (2012) revealed that trust affects people's inclination to use mobile banking. Furthermore, trust is a significant component in determining whether individuals desire to use mobile banking, according to several previous research (Amin, 2009; Juwaheer et al., 2012, Kesharwani & Bisht, 2011). Much earlier research has noted and studied the critical importance of trust in successful e-commerce and Cellphone banking transactions. Due to its critical function in mediating information flow, trust is still a major challenge in e-commerce disciplines such as Mobile banking. However, there are a variety of definitions and perspectives on trust, as well as a discussion about what constitutes trust. In other words, due to its complexity, the concept of trust has yet to be fully regulated and defined, resulting in misinformed debates, including its antecedents and results, as well as the trust's construct. However, most trust studies



have consistently adopted the idea of trust as a validated understanding of trust employing Mayer et al., in the e-commerce industry. The acceptance level of trust might alter depending on the relation's knowledge, growth stages, and current signals, combining knowledge-based trust based on acquired experience with calculation-based trust based on perceived costs and benefits.

Perceived risk (PR): In general, the risk may be described as deliberate engagement with uncertainty. A person's subjective evaluation of the degree of risk is referred to as Risk perception. Conducting electronic transactions poses a danger to customers since there is no physical interaction, which affects the usage of internet technologies (Chen et al., 2011). In this study, in contrast to traditional banking, mobile banking transactions carry a risk of losses banking, the risk is related to losses since it involves a virtual environment with no worker engagement (Ruiz-Mafe & SanzBlas, 2008). (Broekhuizen & Huizungh, 2009) found that perceived risk was also a major factor of online buying and had a significant influence on the inquirers' purchases. Furthermore, the risk was identified as one of the major elements determining acceptability in a considerable body of study on the use of online banking in several countries (Juwaheer et al., 2012; Kesharwani & Bisht 2011; Nasri, 2011).

The effect of trust and privacy, cost and convenience, effort expectancy, and culture on the adoption of mobile banking were studied by Li & Yeh (2010), and Zhou et al., (2010).

Trust and Privacy: Trust is essential in delivering needed satisfaction and attainment of goals to mobile commerce customers. User trust and privacy, including security

are vital to capture customers' interest and make them confident in the use of mobile banking (li & Yeh, 2010).

**Cost and Convenience:** The cost of getting modern technology is critical, particularly when it serves personal reasons, in the case of smartphones needed for mobile banking. Min et al., (2008) said that the cost of adopting the technology should be reasonable to the average customer.

**User Satisfaction:** this is an important notion in the behavioral studies of information systems (Delone & McLean, 2003). To evaluate system success, a user satisfaction metric was always employed.

**The Factor Influencing Internet Banking Adoption According to Jahangir and Begum (2008),** four major variables have affected customers' adoption of online banking. These factors encompass perceived usefulness, perceived ease of use, privacy, and security, as well as personal attributes that have significantly affected the user's use of internet banking. Polatoglu & Ekin (2001) in their research listed relative benefits, perceived risk, and trialability, which are variables that have influenced customers' eagerness to test new bank services, which in turn affected the growth and use of mobile banking in Turkey. According to the report, customers of online banking consider banking to be incredibly beneficial and handy for doing financial operations. Yousafzai (2005) said that various variables have affected customers' adoption of online banking. Banking is one of the factors that have driven consumers to use the internet, with perceived ease of use, perceived usefulness, perceived risk, perceived trust, privacy and security, and the user behavior who desire to engage in online banking. The findings of Eriksson et al. (2005) research revealed that three

elements impact customers. The decision to adopt internet banking. Whereas perceived usefulness, perceived ease of use, and perceived trust were the most critical factors affecting people's desire to use internet banking. Ramayah et al., (2006) said that most customers were affected by two key issues that drove them not to utilize online banking. The perceived usefulness and the conduct of their consumers who utilize Internet banking are the reasons that inspire them. The Technology Acceptance Model is expanded by Cheng et al., (2006) to consider site safety concerns that have impeded the uptake of online banking in Hongkong. According to the findings, perceived usefulness, and web security impact people's intentions to utilize internet banking. The findings also reveal indirect impacts on factors of convenience that contributed to the usage of internet banking services. According to Pikkarainen et al. (2004), who apply a standard Technology Acceptance Model published by Fred Davies in 1989, perceived usefulness, perceived ease of use, also privacy and security concerns, have become key elements in the adoption and usage of online banking in Finland. According to Lin (2010), relative benefits, perceived ease of use, compatibility, and trustworthiness are pathways via which customers' acceptance of changing banking methods offered by banks has influenced their decision to utilize online banking services. Matilla M. (2003) discovered that internet accessibility, awareness, complexity, compatibility, and interest are significant factors in determining whether mobile banking is adopted. Lack of information, technology skills, and culture are other impediments to the growth of electronic banking according to Laforet S&Li X (2005). Performance, social effect, and task-technology fit all have an impact on how well-received mobile banking innovations are by consumers, according to Zhou et al., (2010).

According to the extensive analysis of the works of literature, numerous factors have a substantial influence on the adoption of m-banking. However, the variables employed in this study affecting mobile banking usage among students in no order include Perceived security, perceived cost, complexity, awareness, and social influences.

### **2.2.1 Perceived Security**

Users' adoption of digital banking is heavily influenced by aspects such as e-service security and convenience (Poon, 2007). As seen through the eyes of technology Consumers' inclination to utilize e-banking was influenced by several factors, including security concerns (Ghani, 2018). The level of security associated with e-services determines users' trust in a site and their confidence to supply sensitive information (Zeithaml et al., 2000). An application's security is the user's belief that using it is risk-free and that data will be protected from unwanted access (Kim et al. 2010). Likewise, security is also described as the degree to which users of an application feel comfortable disclosing personal and financial information when interacting with and conducting business on bank websites (Shareef et al. 2011). Additionally, cellular carriers promise that customer personal information is not disclosed or shared with third parties, nor is it violated for any other reason.

Furthermore, according to numerous academics, internet security is comprised of five basic principles: privacy, integrity, authentication, verification, and non-rejection (Taherdoost et al. 2011). Another researcher believes that maintaining the availability, confidentiality, and integrity of data and systems is the fundamental purpose of security (Charney, 2008). E-security components were also revealed to be authentication, access, and integrity (Lai et al, 2011). Availability, secrecy, non-repudiation, and integrity are the four security components that describe all real-

world security requirements. Similarly, accessibility, transparency, authentication, integrity, nonrepudiation, access, and secrecy are some of the information security components that might expand (Weippl, 2005).

According to a research study carried out in Finland considering the Technology Acceptance Model (TAM), e-banking acceptance may be modeled using the TAM variables, perceived usefulness, and perceived ease of use, as well as four other factors referred to as perceived enjoyment (PE), information collected from relevant online banking acceptance literature on online banking security and privacy, as well as internet connection quality (Pikkarainen et al, 2004). Research done in Sri Lanka focused primarily on the investigation of customers' attitudes regarding online using four factors (TAM with two extra variables); PEOU. PU. Perceived Risk (PR), and Subjective Norms (SN). The PEOU and PU exhibit significant positive relationships with attitudes towards online banking, but PR and SN have a small significant relation (Priyangika et al, 2016). Perceived security is a motivating factor that evolves into a specific form of verification based on performance as a result of technology-based usages, such as mobile banking services. Clients who feel that safety precautions are followed when using mobile banking services are anticipated to perform better and offer more meaningful feedback to the bank system. When using services, customers will interact with the system automatically, with past usage functioning as a favorable push that increases the likelihood of future use. As a result, perceived security may be regarded to be an individual state that increases or decreases at various periods when accessing and utilizing the Mobile banking service. Internal and external motivations like perceived usefulness and perceived security will affect consumers' online behavioral navigation. It was stated unequivocally that there are two main classes of such unique motives to engage in an

activity: "Extrinsic motivation refers to the execution of an activity because it is believed to be important in reaching desired goals that are apart from the activity itself, such as enhanced work performance, compensation, or promotions." Extrinsic motivation is driven by external factors such as results, whereas intrinsic factors are driven by the desire to complete an activity for no apparent reward other than completing it. The concept of transactional tasks was presented by Gefan & Staub (2000), which integrated perceived usefulness and perceived security at IT extrinsic characteristics, however, PEOU was not included to examine its impact on use intention. As a result, we believe that perceived usefulness and perceived security are both extrinsic motivations.

### **2.2.2 Perceived Cost**

The impact of costs on the adoption of mobile banking services to customers and banks cannot be overemphasized. Ishengoma (2011) researched the Analysis of Mobile Banking for Financial Inclusion in Tanzania (Kibaha District Council). The study sought to ascertain the prevalence of mobile banking, the attitudes of mobile users towards using mobile banking services, the degree to which the service has impeded financial growth, and the success and costs related to using mobile services. Questionnaires and interviews were utilized to gather data. According to the results of the survey, 79% of the public uses mobile banking services. The scheme, according to most clients, made it possible for them to obtain financial services. The survey also discovered that illiterate respondents had more difficulties utilizing technology than literate users. The discrepancy in mobile banking service prices was not evident to the researcher, who urged an additional investigation. The expectations and perceived value of technology making easy access to financial information were cited as reasons why respondents who had not previously used mobile banking were

interested in doing so. As a result of cost impact, Wessels & Drennan (2010) found that mobile banking adoption was influenced by acceptability and adoption rates. Mobile banking adoption is likely to be hindered by the prices of mobile banking services based on demographics.

### **2.2.3 Awareness**

Due to the financial services industry's highly competitive climate, in mobile banking, there is a rising need to create and execute alternate distribution channels. Among others, the financial services include, checking an account balance, doing money-related transactions electronically, and retrieving account history electronically (Ikpefan et al. 2018). Banking is one of the businesses that has used technology to offer better and higher quality services to customers around the globe (Inegbedion et al. 2020). Furthermore, he investigated the use of ATMs, mobile banking, and internet banking, as well as the outcome of bank customers' awareness and behavior toward mobile banking, his findings revealed that the use of ATMs, mobile banking, and internet banking significantly affect how Nigerian consumers behave when using electronic banking. According to the report, smartphone banking is more developed than online banking and ATM services. Additionally, it was shown that consumer awareness affects the uptake and use of banking services through mobile.

According to Quick (2009), mobile phone social services are now driving usage among poor and low-income employees. This is because mobile phones are used for staying connected with family and friends. Another key reason fueling the growth of smartphones is the fact that they are "mobile," making them well-suited to rural locations with little infrastructure (Baro & Endouware, 2013).

The study by Crabbe et al., (2009) examined the factors influencing mobile banking adoption in Ghana. Adoption decisions are influenced by social and cultural elements such as perceived legitimacy, favorable environment, and demographic characteristics, according to the research. A study conducted by Inegbedion (2018) aimed to show whether consumers' adoption of electronic banking is influenced by various factors. The study found that the understanding of the internet, the perceived ease of use, and the perceived riskiness of the internet, as well as the type of transaction, have a significant impact on customers' adoption of electronic banking in Nigeria. Mobile technology is widely accepted, with 89 percent of South Africans owning a mobile phone in 2014 (Poushter & Oates, 2015). However, due to the advancement of mobile technology, 60.8 percent of all South African families now use mobile devices to access the internet, including 24.7 percent of rural homes (Statistics South Africa, 2018). To stay competitive, every South African bank offers online and mobile banking services. Apart from its well-developed monetary system, South Africa's financial system provides unbanked people with money transfer services equivalent to M-Pesa. Both Zimbabwe and Kenya have success stories in the sphere of mobile banking according to (Chigada & Hirschfelder's, 2017) research, while the South Africa M-Pesa story is a sad note to discuss. The failure of the country initiative, according to the authors, should be used to build user-friendly and productive mobile banking systems. Safaricom has 20,000 active users two weeks after introducing M-Pesa in Kenya in 2007 (Bengelstorff, 2015). It uses only a smartphone with a Safaricom number to 'move cash' digitally over a great distance, even globally. By 2015, this success story had grown to include 20 million consumers and 83 000 agents. Customers may use M-Pesa to pay their power and water bills, withdraw cash from ATMs, purchase plane tickets, pay for a taxi, and



take out small loans (Benelstorff, 2015). The usage of mobile technologies for business purposes in India gave birth to the concept of mobile commerce (Mittal, 2018). (Gupta, 2005) asserted that one of the world's fastest expanding markets is the mobile phone market and financial institutions have seized this opportunity to gain a competitive advantage. by providing several value-added services to consumers via mobile banking (Gupta, 2005).

#### **2.2.4 Perceived Ease of Use**

PEOU stands for "perceived ease of use" it is described as "the degree of ease connected with the usage of the system" in TAM. It allows you to sway people's opinions and encourage them to embrace and use new techniques (Zacharis, 2012). People seek to make their actions as simple as possible, according to most of the earlier behavioral decision-making research. Furthermore, extensive empirical has demonstrated that behavioral intention to use is directly and significantly impacted by perceived ease of use. The adoption of a virtual reality crash cart simulation was investigated by Fagan et al., (2012), who found that the simulation's PEOU had a favorable impact on behavioral intention to use it. An online trading system's perceived user-friendliness is essential to its success according to Garca et al.,2008. Additionally, (Choraria, 2012) argues that simplicity of use is critical for people seeking and contributing to content in online communities. The degree to which online banking is seen as being simple to use and access is known as PEOU in electronic banking. According to this field's study, PEOU is influencing one's inclination to adopt electronic banking (Amin, 2009).

#### **2.2.5 Social Influence**

TAM's shortcoming derives from the absence of several crucial aspects in the model, such as social impact and mobile service quality (MSQ). As a result, by including

these two factors, our study has expanded TAM. The perceived pressure from people the consumer considers significant is referred to as social influence. This topic has been the subject of substantial research in social psychology, and the theory of planned behavior integrates social impact as an indirect indicator of behavioral intention. Individual members must be in a manner that is compatible with the group to be socially acknowledged in the group as a member. (Venkatesh & Morris, 2000; Hong et al., 2008 ;). Using mobile banking services in Pakistan is influenced by social influence, according to Kazi & Mannan (2013).

### **2.3 Background Theories**

Many studies have been conducted regarding technology adoption and innovation in the acceptance of information technology by individuals and organizations since the mid-1980s (Venkatesh et al., 2003 & Yang, 2005).

Acceptance Technology as Paradigm view towards the using mobile phones for banking in serving customers' financial demands will change the dynamics of beliefs, influencing customers' motivation to adopt and utilize bank services. Attitudes in this which are used to deal with technological innovations in the context of IT, for example, the internet-based service- become the key factor in the primary outcome of the application of the Technological Acceptance Model. Particularly, in examining the effects of human ideas, beliefs, attitudes, and intentions towards Information systems. Consumers examine the information while using a technological technique as a kind of invention and then determine whether to accept or reject such users based on their perspectives, which validates the behavioral process of usage. As defined in the model of consumer satisfaction and dissatisfaction, system usage is one of the major factors used in technology acceptance research.

A prior theory, the Theory of Reasoned Action, has been adapted into the Technology Acceptance Model (TAM), which is built on two dependent variables of beliefs, namely, the perceived usefulness (PU) and the perceived ease of use (PEOU) in an IT system may influence behavioral intentions, resulting in actual usage of the system.

(Hernandez & Mazzon, 2007) pointed out that Venkatesh and Davies (2000) in their study expanded Tam's theory by including a subjective norm dimension, which they dubbed TAM2. As well to social influence, Venkatesh & Davies (2000) asserted that cognitive instrumentality also had a substantial effect on consumer acceptance.

Dasgupta et al. (2011) used extended TAM to investigate 325 MBA students in India and discovered key factors in mobile banking adoption. To begin, they performed an exploratory analysis to identify key influencing elements. They then did regression analysis. Consequently, they believed that six of the seven criteria had a substantial impact on mobile banking adoption. These factors, excluding risks, include perceived credibility, perceived ease of use, perceived image, perceived usefulness, and self-efficacy.

Another well-known theory in this sector is Rogers' (1995) Diffusion Innovation Theory (DIT). To process the acceptability of technology innovation, he suggested five barriers: compatibility, complexity, observability, relative advantage, and trialability. Relative advantage relates to how much better a breakthrough is than the earlier technology. Compatibility is the degree to which an innovation complies with the needs and expectations of customers. The complexity of innovation relates to how difficult it is for consumers to utilize or comprehend it. The extent to which

potential consumers see the benefits of the invention is referred to as observability. Finally, trialability relates to how much an innovator is tested before it is adopted.

The findings of this study revealed that the relationship between each attribute and the users' intention to adopt is favorable, apart from complexity, which had a negative relationship (Hernandez & Mazzon, 2007).

Expectation-Confirmation Model (ECM) the consumer behavior literature dominates the customer rebuying habit study in the marketing field of research as the core conceptual model in the investigation of consumers' post-consumption behavioral patterns. According to the hypothesis, consumer satisfaction is connected to the intensity and signal of disconfirmation. With this, disconfirmation is an impression formed when pre-purchase intentions are compared to post-purchase performance with the consumable commodity. Numerous studies have been empirically adopted to investigate users' behavior patterns towards the adoption of IS and technology use, especially from a personal standpoint after adoption and after consumption, indicating that from early adoption to later stages of usage, the decision factors that influence a person's decision to use technology may change throughout that use. Individual experience from using the service or product contributes to perceived performance on its consumption, resulting in distinctiveness.

The experimentally tested Expectation Disconfirmation Theory also called the Expectation Confirmation Paradigm, is a widely used model for evaluating contextual factors just as expectations, dissatisfaction, performance, and customer satisfaction. Previous research, on the other hand, has yielded contradictory results when it comes to the specific roles of expectation, dissatisfaction, and performance

in comprehending the term contentment. Furthermore, past studies that have highlighted the need for ECM in dealing with the continued use of electronic-based systems, notably in online banking, have received less attention. Expectations are the characteristics of an expected product or service that is a guess and serve as the primary criterion in the framework of ECM. Afterward, expectations are then used to assess performance and influence the result of an evaluated disconfirmation, which was then used in calculating the influence on satisfaction. If the predicted belief is bigger than the observed performance, the negative disconfirmation will affect discontent or pleasure, and the other way round. Because the process of technology-based integration systems will have a substantial influence on the positive result of IS usage, this consideration is revealed by ECM, which recommends that IS usage persistence is based on one's intention to continue using IT, with dependent and representative variables of post-adoption usage beliefs, expectation beliefs in post-adoption usage, and confirmed expectations on perceived usage performance, all of which the PU dimension illustrates. Furthermore, ECM has been entrusted with resolving several research problems in the field of IS adoption and usage, particularly those connected to the continuity paradigm of IS and the dynamics of users' attitudes and beliefs over time. As a result, such dependent variables are important determinants in determining the user's degree of satisfaction with the acceptance and employment of the information technology system, which serves as a determinant of the user's decision to continue. As a result, the ECM places less emphasis on pre-adoption and focuses more on the post-adoption stage, and therefore incorporates PU only as a use-related belief since PEOU's significance diminishes as users are more accustomed to IT system operations.

## **2.4 Conclusion**

According to the study, based on the distinct types of material analyzed, most academic librarians know about the commonly used internet banking services, which include airtime recharge, money transfers, receiving a statement of accounts, checking of account balance, making inquiries of transactions, and receiving SMS alerts. Most academic librarians concur and believe strongly that the use of mobile banking services makes fund transfers faster, speeds up account inquiries, reduces the period for customers, increases quick response for customers, makes the transaction more convenient for customers, and reduces cost. The bad network was cited as one of the challenges to using internet services since it leads to network failure during transactions, the possibility of being cheated, no privacy of information, and the problem of transactions not being delivered when the phone is misplaced security measures are not guaranteed. Customers may use mobile banking services to perform transactions from anywhere in the world. With this quickly growing mobile market technology, many students have made inventive use of mobile devices to fulfill the requirement for a digital wallet. Students may now carry out their everyday business from both the school and their homes thanks to technological advancements.

## **Chapter 3**

### **CONCEPTUAL FRAMEWORK**

#### **3.1 Introduction**

The chapter includes features from multiple technology acceptance models (TAM) and works of literature to form the research model. The model's goal is to study the perceived elements in various literary works that may have created some concern about mobile banking usage. According to a thorough review of the research, several factors have a substantial impact on m-banking uptake. However, the elements considered in this study that impact mobile banking usage among students are as follows: perceived security, perceived cost, complexity, awareness, and social influences. This factor has been used multiple times by various researchers to forecast and get insight into how it affects mobile banking usage.

We will outline our five hypotheses in this chapter and offer references to earlier research that supports our assumptions. Our study will concentrate on mobile banking services and usage. The student understudy will be from the Eastern Mediterranean University in TRNC.

#### **3.2 The Impact of Perceived Security on Mobile Banking Usage**

According to an extensive literature study, security is one of the most important aspects affecting consumers' acceptance of electronic banking.(Koskosas, 2011; Polasik, Pikkarainen, Karajaluoto, &Phannila, 2009; Yoon & Steege, 2013). When using mobile banking, security and trust are crucial factors for consumers' personal

financial information. As a result, when a person perceives a risky transaction, or when the risk of using smartphone banking increases, the chance for adoption decreases (Brown et al., 2003). It is vital to keep security in mind while developing mobile commerce applications. For effective mobile financial transactions, authentication, confidentiality, integrity, and non-repudiation are essential (Chen & Zao, 2012).

According to Singhu & Washburn (2010), the primary issue in the current mobile banking setting is security. Many mobile banking customers prioritize security. According to the report, when it comes to m-banking security, 31% of customers are prepared to pay more, 63% are willing to switch their account to one with greater security measures, and 71% are willing to transfer their money to institutions that would repay guaranteed losses (Heggestuen, 2014).

In the context of mobile banking, there are concerns about information security. M-banking security is more challenging due to the variety of mobile devices and platforms (Chen, Lee & Zhang, 2013). To supply safe online services and improve customer happiness, banks need to build trust with their clients. In line with this, most electronic banking scenarios have highlighted privacy and security concerns as significant sources of discontent (Oni & Ayo, 2010).

Ramayah et al., (2006) investigated users' and non-users' opinions of online banking and found that security was a significant predictor of users' internet banking usage, in a similar vein, Wang et al., (2004) discovered that perceived security had a significant positive impact on the behavioral intention for mobile banking in Taiwan. Therefore, we propose that;



**H<sub>1</sub>:** Perceived security has a positive and significant effect on mobile banking usage among EMU students.

### **3.3 The Impact of Perceived Cost on Mobile Banking Usage**

In addition to the conventional constructs derived from TAM, TRA, and TPB, the financial costs incurred during mobile banking transactions must be included. The cost of mobile commerce has been cited as a major factor in e-commerce adoption (Khalifa & Shen, 2008; Wang et al., 2006). Mobile commerce is more expensive than e-commerce due to equipment expenses, membership fees, and transaction fees. Drennan & Wessels (2010) found a negative correlation between perceived cost and intention to use mobile banking in their study of the effect of cost on usage intention. In other words, the less likely it is that modern technology, like M-banking, would be used, the greater the expenses of integrating it.

Most consumers cannot afford to buy phones that are compatible with various mobile banking apps, and those who do have android or iOS phones are charged a substantial cost by the web service provider corporation to use their network for online transactions. As a result, people are less interested in using mobile banking. A variety of transaction fees, such as bank charges, SMS alert charges, and email alert charges are also included in the cost.

According to a previous study, the adoption of mobile banking may be significantly hampered by perceived cost (e.g., Dahlberg et al., 2008; Kleijnen et al., 2004). The cost has a significant negative impact on the propensity to use a smartphone for business (Wang & Wu, 2005). Low charges, on the other hand, may entice people to adopt e-banking (Sathye, 1999).

Abdinoor & Mbamba (2017) discovered that cost has a significant impact on mobile banking adoption in Tanzania and that service providers should consider this issue when trying to increase mobile banking customers. As a result, we hypothesize that;

**H<sub>2</sub>:** Perceived cost has a positive and significant effect on mobile banking usage among EMU students.

### **3.4 The Impact of Awareness on Mobile Banking Usage**

Mobile banking is a novel invention. As a result, awareness may be viewed as a barrier to acceptance and implementation (Al-Somali et al., 2009). Hanafizadeh and Khedmetgozar observed in their study that understanding internet banking minimizes perceived risk, they also believe that raising awareness is critical in influencing mobile banking usage and attitudes. Knowledge of online/mobile banking has an impact on perceived ease of use and usefulness, according to Sharefi et al., 2017. As a result, the more aware one is the more positive one's outlook.

(Inegbedion et al., 2020) investigated the usage of ATMs, mobile banking, and online banking, as well as the influence on bank customers' knowledge and behavior toward mobile banking, as shown in the literature section of this research. His study has proven that the usage of ATMs, and mobile banking, has a substantial influence on customers' behavior in Nigeria when it comes to electronic banking.

The adoption of the internet was the subject of a study by Sathye (1999) in Australia, and it was shown that awareness has an impact on adoption. The study also demonstrated that the higher the level of technology awareness, the higher the adoption rate. Therefore, we propose that:

**H3:** Awareness has a positive and significant effect on mobile banking usage among EMU students.

### **3.5 The Impact of Perceived Ease of Use on Mobile Banking Usage**

A person's perception of how easy it is to utilize a given technology is measured by how little mental effort they perceived it to demand (Seyed Javadian, 2009). Another meaning of perceived ease of use refers to a person's perception that a system can be used with little effort (Davis, 1989).

Perceived ease of use according to research by Jeong & Yoon (2010) was found to have an impact on mobile banking uptake and use in Singapore. According to Shi's (2011) research, consumers' intention to embrace technologies is significantly influenced by the dimensions of perceived ease of use. According to Odumeru (2008), among other things, PEOU has a positive significant impact on Nigerians' acceptance of internet banking. Therefore, we propose that;

**H4:** Perceived Ease of Use has a positive and significant effect on mobile banking usage among EMU students.

### **3.6 The Impact of Social Influences on Mobile Banking Usage**

The term "social influence" refers to how the environment influences a person's decision to use a product or service. Friends, family, and relatives are among those present (Riquelme & Rios, 2010). According to Chaouali et al., (2016), social influence is more important in developing countries because individuals adapt to their surroundings. The most significant predictor of a person's motivation to use mobile banking, according to an empirical study conducted by Yu (2012) in Taiwan, was a social influence. (Singh et al, 2010) revealed that friends and family members had an impact on people's decision to use mobile commerce services.

Social influence positively affects the adoption of mobile banking in China and Turkey, according to earlier studies (Zhou et al., 2010; Bidar et al., 2014). Amin et al., (2008) in a survey of 158 customers from a large Malaysian bank experimentally discovered that social influences had a significant impact on each person's inclination to use mobile banking. Therefore, we propose that:

**H<sub>5</sub>:** Social influence has a positive and significant effect on mobile banking usage among Emu students.

This figure depicts the conceptual framework for this research, which was derived from the literature analysis and hypothesis development.

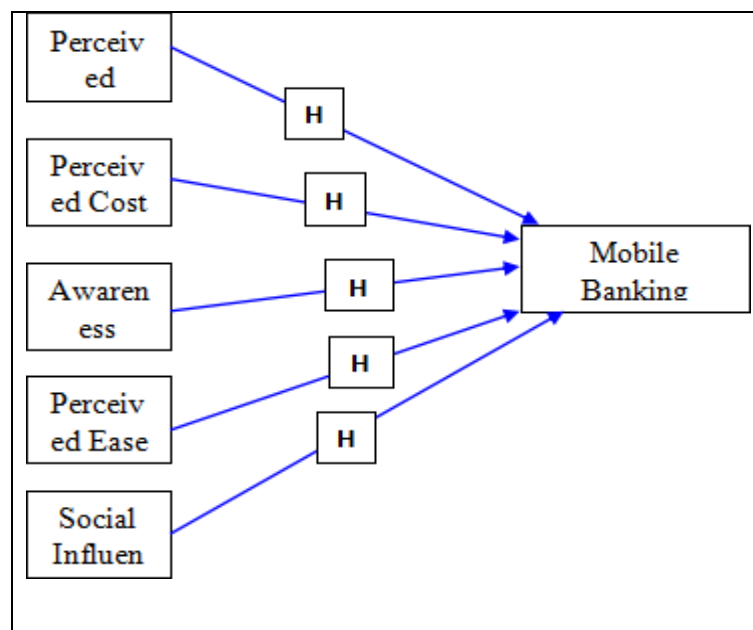


Figure 1: Proposed research model

### 3.7 Conclusion

This chapter included the incorporation of components from several pieces of literature on technology acceptability to develop the study model. The various

perceived factors (perceived security, perceived cost, complexity, awareness, and social influence) that act as roadblocks to mobile banking acceptance and usage were discussed and found to have a significant impact on mobile banking usage according to several works of literature.

Also included was the creation of a conceptual framework figure that shows and differentiates the hypothesis for each variable from one another. During this study, a total of five hypotheses were developed and will be evaluated in the field.

## **Chapter 4**

### **RESEARCH METHODOLOGY**

#### **4.1 Chapter Overview**

The technique employed was examined in the light of the specific reason for which this study was conducted, also, the research questions derived from the research topic. This chapter detailed the numerous ways and procedures used to acquire and analyze data. As a result, it has been separated into parts that cover the study design, steps for the questionnaire, questionnaire format, sample size, sampling techniques, and ethical issues.

In investigating a range of methodologies, such as case study, practice, experiment, interview, survey, mathematical models, and observations, the researcher must choose a suitable process (Chen & Hirschheim, 2004; Creswell & Clark, 2010; Golafshani, 2003).

#### **4.2 Research Design**

The core approach or method of data analysis used by the study is referred to as the research design (Fraenkel & Wallen, 2000). According to Kothari (2004), the formulation of the research design process is the difficult task that comes after the process of choosing a research topic.

The goal of a research design is to develop a workable framework for the investigation. A key phase in the study design process is selecting a research strategy

because it determines how pertinent data for a study will be acquired; nevertheless, there are many related possibilities available (Aaker A, Kumar VD, & George S. 2000).

Exploratory, descriptive, and explanatory research designs are the three categories of study designs (Robson, 2002). His classification depends on the objective of the field because each design has a certain end goal. For instance, descriptive research aims to depict a person, situation, or event or to demonstrate how various elements are related and how they manifest themselves naturally (Blumberg et al., 2005). By demonstrating the relationship among variables or the frequency with which an event happens, descriptive research provides a greater level of knowledge (Churchill & Iacobucci, 2002). This category encompasses most of the social research. It is more structured, formal, and pre-planned to obtain the complete and correct information. Descriptive studies are most appropriate for a brand-new or unexplored subject topic because they can never fully explain why something happened (Punch, 2005). With that, explanatory or exploratory study methodologies are advised in situations when descriptive resources are in abundance.

Exploratory research is carried out when there is inadequate information about a phenomenon or a problem that has not yet been recognized (Saunders et al., 2007). Its objective is to analyze the study topic in various depths rather than provide definite and conclusive solutions to the research inquiries. Consequently, its focus is on addressing brand-new problems that have received little or no prior research (Brown, 2006).

On the other hand, explanatory research seeks to justify and make sense of descriptive data. Explanatory research aims to answer the (why and how) questions according to Grey, (2014). In explanatory research, causes and explanations are sought after, and data are presented to either confirm or disprove an explanation or prediction. It is done to find and explain specific relationships between different phenomenon components.

However, this study seeks to determine the connections between student use of mobile banking and the many elements that may affect it, also to illustrate which factor influences mobile banking usage the most, descriptive research will be employed.

### **4.3 Research Approach**

In conducting a study, researchers recommended two basic techniques. These approaches are quantitative and qualitative procedures. (Engstrom & Salehi, 2007). By quantifying the variance, the quantitative analysis looks to figure out the nature of an issue or the presence of a link between features of a phenomenon. The qualitative technique, on the other hand, evaluates the inputs, beliefs, and behaviors that individuals attach to a phenomenon to gain a better understanding rather than judging a connection for approval or disapproval. (Boateng, 2014).

A quantitative approach focuses on getting data in a quantifiable form that is structured and examined rigorously. It employs a variety of techniques, the most well-known of which are surveys, experiments, and tracking (Churchill, 1999). Qualitative research is more subjective and focuses on views, conduct, and attitude. It searches for the causes and motivates behind an occurrence and aids in the



explanation of human behavior; it is often used in behavioral sciences. Depth interviews, focus groups, and projective techniques are employed.

However, the quantitative method was used in this study since it examines the relationship among the variables, which are quantified and assessed using a range of graphical and statistical techniques.

#### **4.4 Steps to Take in Designing a Questionnaire**

The procedures that should be taken while developing a successful questionnaire are outlined in this section, which is adapted from Malhotra's (2011)'s ten steps in the questionnaire in Figure 1.



Figure 2: Ten steps of the questionnaire design process. source malhotra (2011).

## **4.5 Questionnaire Design**

### **4.5.1 Specify the Information Needed**

This first stage, according to Malhotra (2011), is critical because it clarifies the pertinent information, allowing us to stay focused on the issue at hand and obtain the most exact and relevant results. According to Malhotra, the target market's socioeconomic characteristics must also be considered in this stage. The overarching thesis of this study is what affects students' use of mobile banking. The precise information is reflected in the research questions and hypotheses.

### **4.5.2 Types of Interviewing Methods**

In every qualitative study, interviews may be classified based on their nature of implementation and desired motivations (Edwards & Holland, 2013). Interviews can be classed as formal or informal based on their nature. Except for the section before, where interviews are categorized according to their formality, interviews are also categorized broadly in qualitative analysis depending on their positions. As a result, the three most prevalent forms of interviews are structured, semi-structured, and unstructured interviews (Edwards & Holland, 2013).

Beri (2010) divided interviewing techniques into four categories. Disguised and structured, Undisguised, and structured, Disguised, and unstructured, and lastly, Undisguised, and unstructured. The researcher chooses the sort of interviewing strategy based on the information needed. There is a range of methods used in primary data collecting, which are chosen depending on the nature of the questions asked and the fact that they either demand flexibility in addition to other variables.

In this study, the structured and undisguised questionnaire was adopted, and the respondent was given an overview of the issue at the start of the questionnaire. There is no need to conceal the study's goal because factors affecting mobile banking usage among students are neither sensitive nor humiliating, and individuals feel comfortable discussing it. Furthermore, showing the study's goal is ethically accepted than concealing it. Also, because the target respondents are accustomed to using the internet for communication through smartphones or laptops, the questionnaire is distributed and completed online to collect data more quickly and efficiently.

#### **4.5.3 Individual Question Content**

After gathering the necessary information and deciding on the interviewing method, Malhotra (2011) found two different questions to be asked in this step. First, the researcher must ensure that questions are needed: Any added questions that are not important to the topic should be removed. Secondly, the researcher must respond to the issue of whether “many questions are required instead of one?”: some double-barred questions, in which two issues are covered within one question, may be confusing to the respondent and influence their response accuracy; so, it is recommended to split it into two questions. In this study, the questions were thoroughly examined to ensure that they were all needed and did not produce ambiguity.

#### **4.5.4 Overcoming Inability and Unwillingness to Answer**

Some aspects that might make it difficult for the responder to answer should be considered by the researchers. Malhotra (2011) classified them into three categories: first, the researcher must ensure that the responder is familiar with the topic; otherwise, he or she would be unable to relate to it and offer exact responses. Secondly, the researcher must decide if the responder can recollect responses to these

questions; for example, inquiring about an incident that occurred several months ago may be difficult for some participants to recall. Lastly, the question “can the responder articulate?” This concern arises in open-ended inquiries in which the responder is expected to give feedback in his or her own words, and few people have difficulties expressing themselves.

Moving on to the characteristics that influence willingness to respond, Malhotra (2010) found four components that the researcher should examine. First, if a question takes a significant amount of work on the part of the respondent, the response rate will suffer. Second, the topic is critical; asking a sensitive subject to the responder in a focus group will result in a lesser level of interest in responding; so, surveys are a preferable choice of the research approach. Third, whether the objective of a query is regarded to be legitimate will affect the desire to answer. Fourth, if the information requested is sensitive, the response will be influenced as well.

To overcome unwillingness to answer in this research, a user and non-user box was specified for participants to tick, whereby participants who are the user will continue with the remaining questions on the questionnaire

#### **4.5.5 Decide the Questions’ Structure**

The demographic questions in this survey were multiple choice, while the rest of the questions were non-comparative, itemized rating scales (Likert scale). This latter name is derived from its founder, Rensis Likert, and it is widely used. According to Bryman & Bell, 2003, this scale is easier to build and administer. A Seven-point Likert scale was employed in this research, ranging from strongly agree to strongly disagree. This scale was employed in earlier research, making it better and more useful in comparing our findings with that of other researchers.

#### **4.5.6 Choosing Question Wording**

According to Fowler, (1992), in survey research, it is agreed that questions should be written in such a manner that participants understand them and that they interpret them in a manner intended by the researcher. There are nine factors of question phrasing that should be considered. To begin, avoid new or rare terms in the questionnaire: foreign words, abbreviations, technical phrases, and acronyms should be avoided. (Grasser et al., 2006). Avoid using inaccurate relative terms: words like “often,” and “recently.” Or “considerably” are problematic since they indicate a relationship to an underlying continuum but their precise position on this continuum is ambiguous. Avoid hypothetical questions: hypothetical questions are difficult to answer because they require responders to place themselves in an all-imaginary position, preserve it in their short-term memory, and then answer the question from the fictional context. Avoid using abstract or confusing language: if feasible use clear and precise terms rather than abstract terms to increase question understanding. Avoid double-barred questions: There are several methods for avoiding double-barred questions. For instance, one may select one choice and confine the query to it. Avoid using complicated sentence structure: to avoid taxing respondents’ cognitive capacities, survey questions’ syntactic complexity should be maintained to a minimum. Avoid double negations: double negative questions are particularly challenging to grasp. They often demand responders to complete a difficult logical thinking challenge (Foody, 1993; Fowler, 2001). Avoid making assumptions: when a situation that applies or does not apply to the respondents is included in the questions, assumptions are present. Such presumptions ought to be ignored when asking survey questions since participants who do not concur with them cannot provide accurate responses. Lastly, avoid leading questions: Leading questions may

prompt responders to contemplate the idea and make lesser interest in understanding and answering the question accurately. This would, in turn, have a detrimental impact on the quality of their answers.

Giving our target audience is EMU (Eastern Mediterranean University) students, the majority of whom speak a different mother tongue, we made sure to reduce the wordings so that understanding is possible without requiring a high degree of English ability.

#### **4.5.7 Determining the order of Questions**

The questionnaire should be organized logically, and before beginning a new topic, all questions connected to the preceding one should be addressed (Malhotra, 2011). If the topic shifts suddenly, it may intimidate the respondent and produce misunderstanding (Boyd & Westfall, 1972).

The funnel technique has been employed in this research. According to Malhotra (2010), this method is focused on having generic introductory questions followed by more detailed questions. To avoid a lack of interest from the respondent's side from the start, the most challenging ones were placed at the conclusion. The opening questions serve as a means of setting up trust between the researcher and the responder; the more intriguing and low-risk they are, the more likely the respondent will complete the questionnaire.

#### **4.5.8 Form and Layout**

According to Churchill, (1999), using a decent physical appearance makes the questionnaire simpler to answer and will get more comprehension. The visual quality that the researcher must consider is influenced by determinants such as font, space, size, layout, and even the paper used. These factors were checked in this research and

to make the coding and analysis phase more structured, the questions were numbered in sequential order.

#### **4.5.9 Reproduce the Questionnaire**

How the questionnaire is replicated might have an impact on the response. If the quality is regarded as poor, the likelihood of a low reaction increases. In certain cases, researchers use smaller fonts to limit the number of printed pages, which should be avoided if the questionnaire appears cluttered or difficult to read. If instructions or guidance for any replies are needed, they should be said along with the associated question. The usage of colors is not needed, although it is preferred. To avoid this in our research, a Times New Roman font, and font size of 12 will be adopted since it is the widely accepted font and size for professional documents.

#### **4.5.10 Pre-testing**

In this phase, the researcher pre-tests the questionnaire with a small group of the sample to show any faults and, if necessary, change them. The participant was composed of 15 students from the department of business and economics who supplied input, and the questionnaire was revised as a result. This procedure saves the researcher a lot of time and lowers the possibility of respondents making mistakes, resulting in more exact data.

### **4.6 Questionnaire Format**

The questionnaire is divided into seven items after it has been prepared and designed following the methods outlined in the preceding section. The first asked question related to demographic, and, asked the respondent to signal if they are “users” or “non-user” of mobile banking, in this part only respondents who select “user” will continue to the other questions. The remaining questions on the form are tailored as follows:

Part 1: A demographics-focused inquiry

Part 2: Evaluations of perceived security

Part 3: Evaluations of perceived costs

Part 4: Evaluations of awareness

Part 5: Evaluations of complexity

Part 6: Evaluations of social influence

Part 7: Evaluations of the intention to use mobile banking.

Answers to parts two through seven are formulated using the following seven-point

Likert scale:

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree.

Part one's responses came in the form of multiple-choice questions. In this section demographic information on age, gender, marital status, and educational level was provided.



Table 2: Questionnaire structure

Questions	Source
Part 2: Perceived Security	
I fear that hackers may be able to gain access to my internet banking accounts	Serener 2018; Kabir 2013
I am concerned that third parties may be able to access my financial details.	
I fear that the list of PIN codes may be lost and end up in the wrong hands	
Using mobile banking I believe my transactions are secured	
I am concerned that third parties may track my banking pattern.	
Part 3: Perceived Cost	
Information Technology devices (laptops, computers, smartphones) are too expensive.	Kabir 2013; Lee 2009; Chain-Son 2012
Internet banking services are too expensive	
Adoption of mobile banking services saves costs	
High expenses put me in a unique situation resulting in managing funds differently	

Using mobile banking will save me money	
<b>Part 4: Awareness</b>	
I will use mobile banking if I have someone else using it	Nitha 2009
Among my peers, I am usually the first to try out new technologies.	
In general, I am apprehensive about experimenting with new information technology.	
I am interested to hear about new technological developments	
If I heard about new information technology, I would find ways to experiment with it.	
<b>Part 5: Perceived Ease of Use</b>	
I have a well-developed ability to operate computers	Kabir 2013; Lee 2009; Nitha 2009
Learning to operate M-banking is easy for me	
It is easy to adopt M-banking to accomplish banking transactions	
Using M-banking, I can easily send and receive money	
Interacting with mobile banking does not require a	

lot of mental effort.	
<b>Part 6: Social Influence</b>	
People who are important to me think I should use mobile banking	Chingoka 2015; Olivera et al 2014; Lee 2009
People who influence my behavior think I should use mobile banking	
I find mobile banking trendy	
The use of mobile banking gives me professional status.	
My friends and family value the use of mobile banking.	
<b>Part 7: Mobile Banking Usage</b>	
I will always try to use mobile banking services in my daily life	Venkatesh et al., 2003; Im et al., 2011
I use mobile banking services frequently to get information from my account.	
I intend to continue using mobile banking.	
I prefer to use mobile banking over the traditional banking method	

## **4.7 Sample Size and Choice of Respondent**

The heterogeneity of a population, according to Cohen et al., (2000), determines the sample size in a research study. Large sample size is needed for a heterogeneous (diverse) population, as well as other considerations such as the aim of the research. A sample is a subset of the population chosen for participation in the study (Malhotra, 2011). To reduce sampling errors, sampling should be done according to a strategy. Following that, the sample's findings can be applied to the population (Parasuraman, 2005). Based on Churchill and Iacobucci there are five steps to gather the needed sample for research.

### **4.7.1 Step 1: Define the Target Population**

According to Cohen et al., (2000), populations in research studies represent the individuals who abide by the standards that make up the whole group of interest to the researcher and to whom the findings of the research may be extended. The target population must be well specified, else findings would be ineffective and, in some situations, deceptive. In our research, the group is Eastern Mediterranean University students in North Cyprus, who makes use of mobile banking.

### **4.7.2 Step 2: Identifying the Sampling Frame**

This is the procedure of listing or setting up the instructions for the elements that identify the target demographic (Malhotra, 2011). The non-probability technique using the convenience method was employed in this study.

### **4.7.3 Step 3: Sampling Method**

According to Saunders et al., (2012) the act of selecting units (such as persons or groups) from a population of interest is known as sampling. By analyzing and comprehending the sample, the researcher may apply the findings to the population from which the sample was taken.

The two primary types of sampling techniques acknowledged by the literature are probability or random sampling, and non-probability or non-random sampling. Random selection is achievable with probability sampling because the researcher knows the likelihood of accurately standing for the population, and the confidence interval for statistical analysis may be easily computed. This method uses a random selection process to choose the respondents, giving every member of the population an equal opportunity to be picked (Bryman & Bell, 2007). Even though it may be time-consuming, it is possible. Random, stratified, systematic, and cluster sampling are examples of probability sampling methods (Bryman & Bell, 2007). Random sampling is the act of picking respondents without regard for any criterion, but stratified sampling occurs when the researcher picks the sample at random while showing and considering one or more attributes from the respondents. According to the requirements of the study, systematic sampling entails randomly selecting respondents from a list at present intervals. When a population is spread out across a broad area, the researcher groups them according to areas, borders, houses, clinics, hospitals, schools, and so on, from which respondents are randomly picked.

Non-probability sampling does not involve random selection, and the sample may or may not accurately represent a population since the sample is pre-selected based on the characteristics of the researcher (Saunders et al., 2012). There are various strategies under non-probability methods that are more about the researchers' selection and judgment but do not supply equal opportunity for the population's respondents to contribute to the study. Malhotra (2010) examined convenience sampling, judgmental sampling, snowball sampling, and quotas.

The convenience sampling method was used in the current research, and each participant was chosen depending on their availability.

#### **4.7.4 Step 4: Determine the Sample Size**

One of the most typical issues posed throughout a survey is how to calculate the sample size, and no one solution fits all. In the current research, 200 participants will be used in our research investigation. We followed Roscoe's (1975) assertion that most research investigations require a sample size of 30 to 500 respondents

#### **4.7.5 Step 5: Collect the Data from the Sample**

This is the last step which requires sharing the link with different Eastern Mediterranean University students in Northern Cyprus who were instructed to respond to the questionnaire if they are a user of mobile banking.

### **4.8 Ethics in Data Collection**

Ethical issues are vital in any study process and must be included in the factor (Bryman & Bell, 2007). Ethics is the standard of conduct that guides researchers' actions concerning the right of study subjects or those who are directly impacted by the research (Saunders et al., 2012) According to the research techniques for business presented by Sekaran & Bougie (2016), various ethical considerations should be considered while gathering primary data. Some of the researcher ethics and standards that were highlighted and followed in this study include:

1. One of the researcher's key obligations is to treat the respondent's information as completely secret and to protect his or her privacy.
2. Personal or potential intrusive information should not be asked, and if it is essential for the project, it should be tapped with extreme delicacy, with precise justifications given to the respondent.

3. The participant's self-esteem and self-report should never be compromised, regardless of the data gathering method used.
4. No one should be forced to partake in the survey, and if someone does not want to take advantage of the chance to take part, that person's wishes should be respected. The researcher's aim should be to get individuals informed permission.
5. There should be no misrepresentation or manipulation of the data gathered throughout the research.

#### **4.9 Conclusion**

This chapter covered many stages of the study's design and development method. It outlined the research method, techniques, and design. The questionnaire design was also included. In addition, the steps in setting the best sampling for the research and processing the primary data collection were discussed. Furthermore, at the end of the chapter ethical issues that were addressed throughout this study were highlighted.

## **Chapter 5**

### **DATA ANALYSIS AND PRESENTATION**

#### **5.1 Introduction**

This chapter presents exceptional results and arguments on empirical data from the research, including descriptive analysis, t-test, correlation, regression analysis, and ANOVA analysis, which shows whether the hypothesis is accepted or rejected when all the variables and parameters are considered. This section presents the participants' replies, beginning with the survey's demographics. Pie charts and tables were used to illustrate the respondents' characteristics. As previously said, a total of 224 replies were collected, with 7 being dropped due to incompleteness. The remaining 217 were kept for further analysis using IBM SPSS version 20.

#### **5.2 Descriptive Analysis**

##### **5.2.1 Gender Frequencies**

- 1) The gender distribution frequencies are shown in the pie chart below. Among those who took the sample, 98 respondents (45.2%) were male and 119 respondents (54.8%) were female.



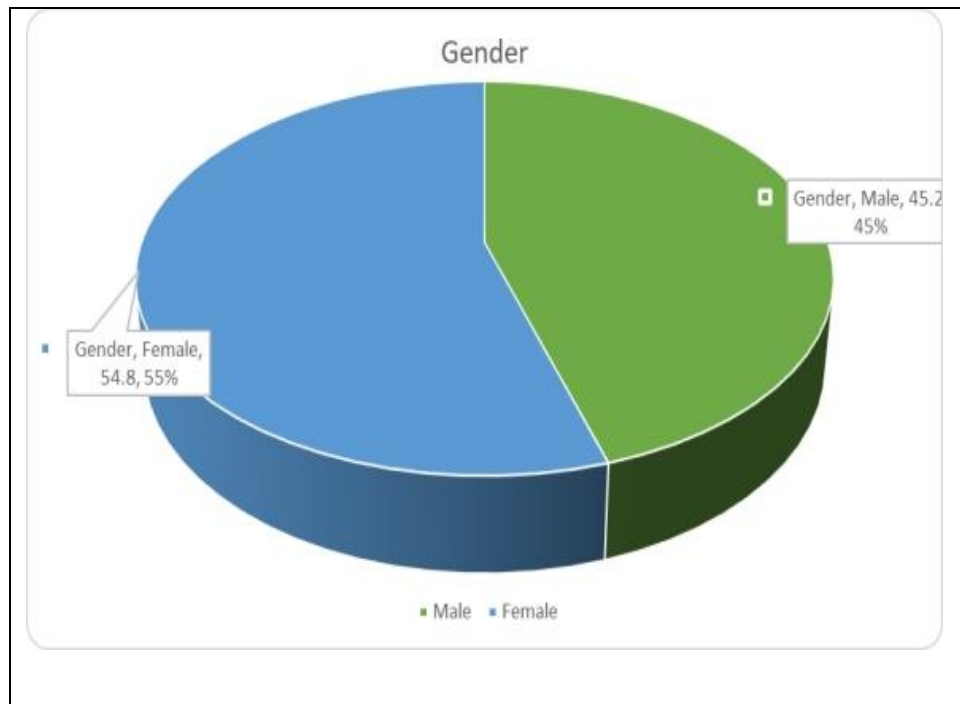


Figure 3: Gender distribution of respondents

Table 3: Gender

GENDER	FREQUENCY	PERCENTAGE
Male	98	45.2
Female	119	54.8
Total	217	100

### 5.2.2 Age Distribution

The respondents' ages are shown in the pie chart below. According to the chart, 25 (11.5%) respondents are between the ages of 15 to 20 years, 89 (41%) respondents are between the ages of 21 to 26, and 81 (37.3%) respondents are between the ages of 27-32 years. Furthermore, 17 (7.8%) respondents are between the ages of 33 to 38 years, while 3 (1.4%) respondents are between the ages of 39 to 44 years, and finally, 2 (0.9%) respondents were aged 45 and above.

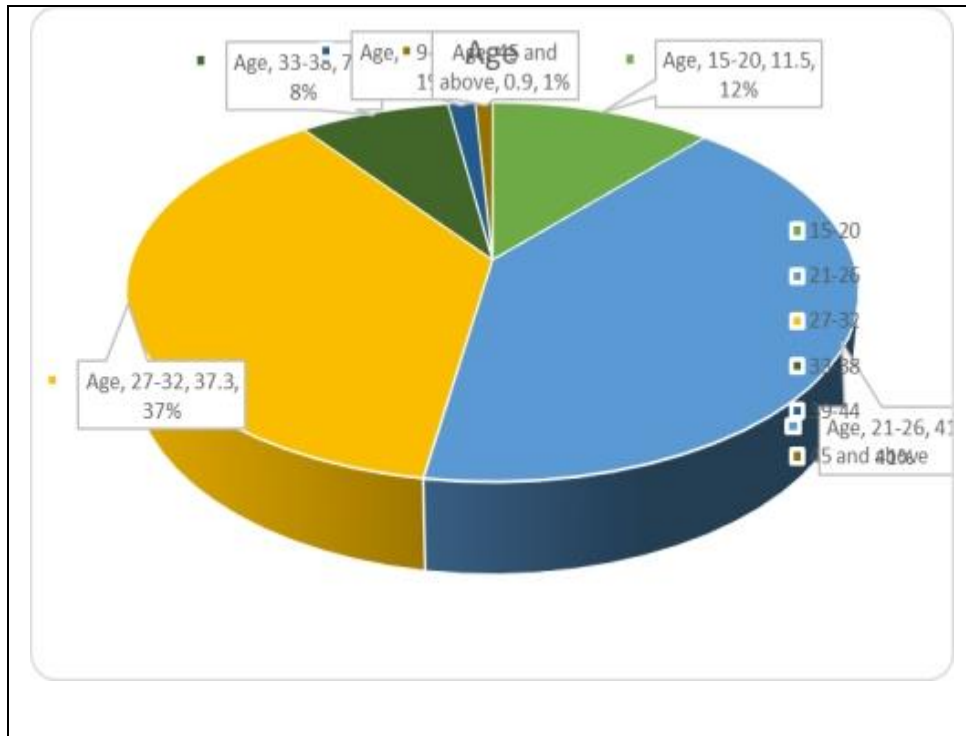


Figure 4: Age distribution of respondents

Table 4: Age

Age Group	Frequency	Percentage
15-20	25	11.5
21-26	89	41
27-32	81	37.3
33-38	17	7.8
39-44	3	1.4
45 and above	2	0.9
Total	217	100

### 5.2.3 Marital Status

The respondents' marital status is shown in the pie chart below. The chart shows that 199 (91.7%) respondents were single, while 16 (7.4%) respondents were married. In addition, 2 (0.9%) respondents were divorced.

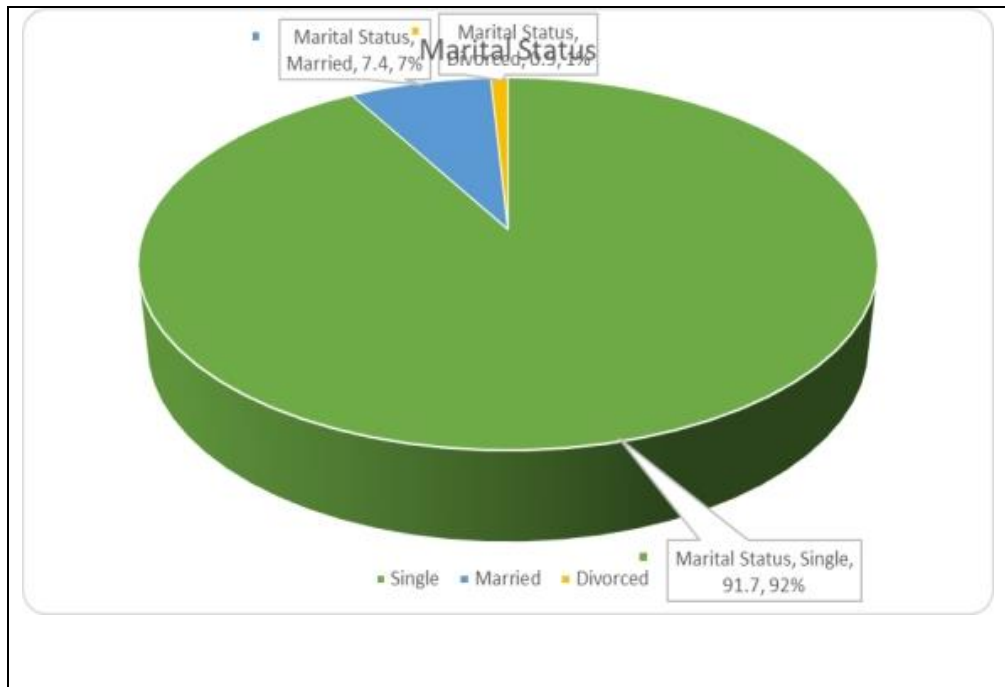


Figure 5: Marital status distribution of respondents

Table 5: Marital status

Marital Status	Frequency	Percentage
Single	199	91.7
Married	16	7.4
Divorced	2	0.9
Total	217	100

#### 5.2.4 Education Level Distribution

The pie chart below shows the educational level distribution of participants. According to the chart, 16 (7.4 %) respondents just finished high school, 17 (7.8%) respondents are doing their diploma, 103 (47.5%) respondents are undergraduates, and finally, 81 (33.7%) respondents are masters and above.

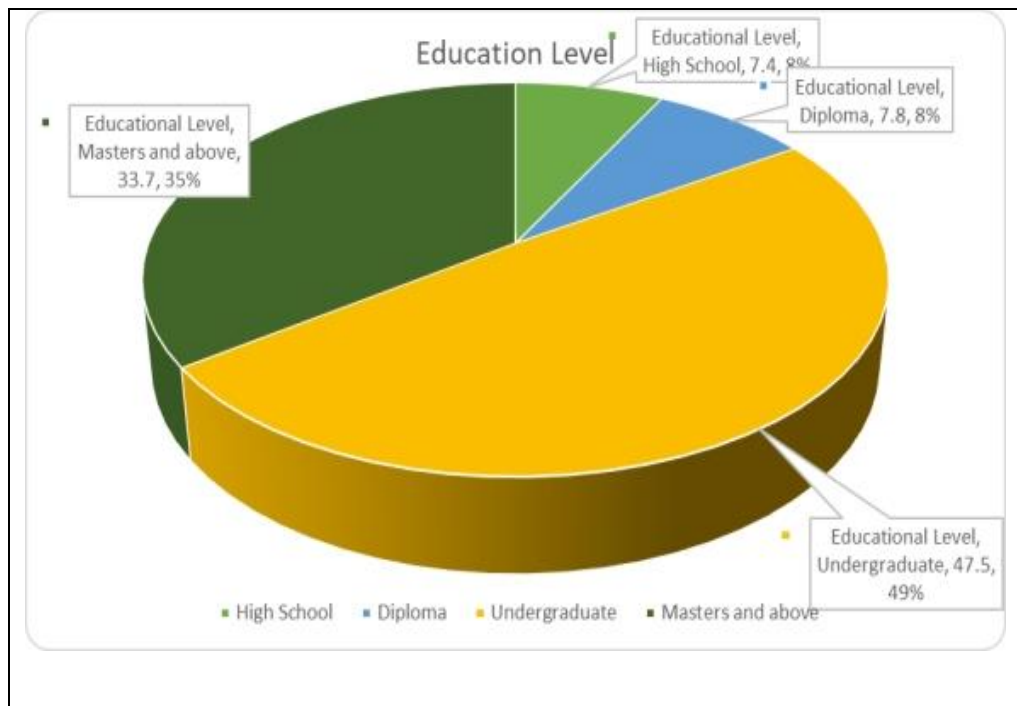


Figure 6: Education level distribution of respondents

Table 6: Educational level

Education Level	Frequency	Percentage
High School	16	7.4
Diploma	17	7.8
Undergraduate	103	47.5
Masters and above	81	33.7
Total	217	100

### 5.2.5 Mobile Banking Usage

The distribution of respondents' use of mobile banking is illustrated in the pie chart below. The chart shows that 203 (93.5%) respondents were users, while 14 (6.5%) respondents were non-users.

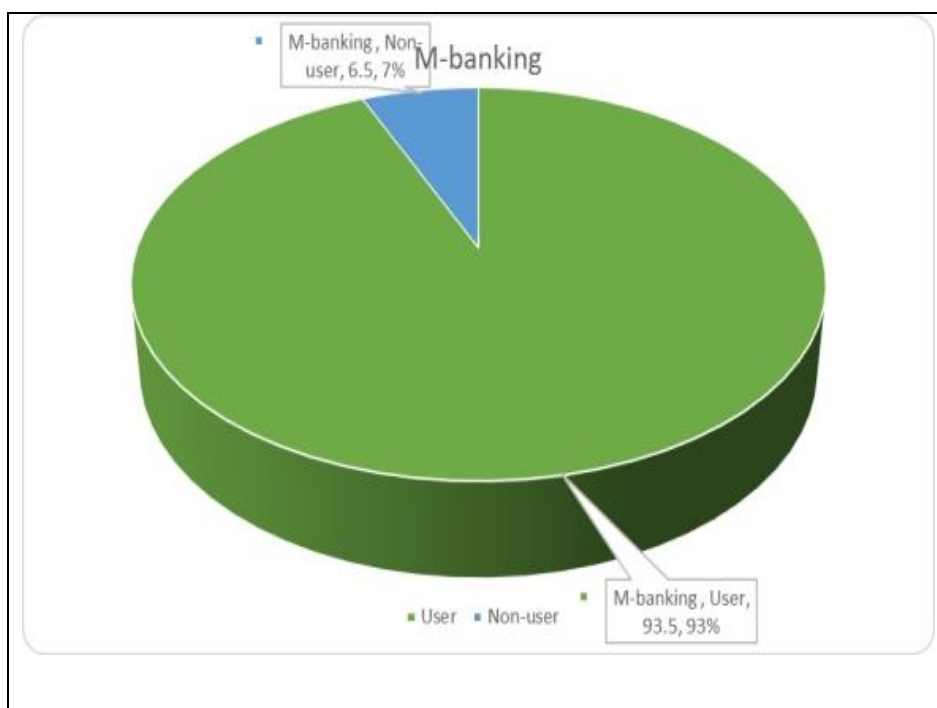


Figure 7: Mobile banking usage distribution of respondents

Table 7: Mobile banking usage

M-banking	Frequency	Percentage
User	203	93.5
Non-user	14	6.5
Total	217	100

### 5.3 Independent Sample T-test for Gender

Determining if a statistically significant difference exists between two groups on a given metric. We may infer that the difference is statistically significant if the p-

value is less than 0.05 (Filed, 2005). To find if the variances of k samples are equal, we use Levene's test (Levene, 1960). The term "homogeneity of variance" describes samples with identical variances. The Sig (2-tailed) p-value shows whether our correlation was significant at a given alpha level. Tables 5.4 and 5.5 illustrate the results, respectively. If Levene's test shows that the variances are equal across the two groups (i.e., the p-value is high), the equal variance assumed column will be reported.

Table 8: Independent sample test (Gender)

		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MBU_Mean	Equal Variance assumed	2.124	.146	.624	215	.533	.06828	.10947	-.14749	.28405
	Equal Variances are not assumed			.620	210	.536	.06829	.11019	-.14901	.28556

The study revealed that there is no statistically significant difference between males and females considering mobile banking usage ( $t = .625$ ,  $p = .533$ ).

Table 9: Independent sample test (User)

		Levene's Test for Equality of Variances.	T-test for Equality of Means							
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	95% Confidence Interval of the Difference	
									Lower	Upper
MB U_Mean	Equal variances assumed	2.061	.153	-4.508	215	.000	-.95628	.21215	-1.3744	-.53812
	Equal variances not assumed			-3.673	14.144	.002	-.95628	.26035	-1.51413	-.39843

From the figures in the above table, we can infer that there is a statistically significant difference between the user and non-user of mobile banking ( $t = 4.508$ ,  $p = .000$ ).

This means that the numbers of respondents are reliably different, aiding our data analysis. This result also shows that most EMU students use mobile phones and have accounts with various banks. The creation of student savings accounts by EMU, and having an ATM card has a school ID card might have encouraged students to use mobile banking services to complete their financial transactions.

## 5.4 ANOVA Analysis

Analysis of variance is a statistical procedure that divides the measured variance values into several components which are used for further testing. Analysis of variance examines the averages (mean) of two or more independent groups to see whether there is statically justification that the population's mean values are

statistically and significantly different. The more specific independent T-test is replaced with the more comprehensive one-way analysis of variance (ANOVA) when there are more than two groups to compare (Kozub, 2010).

Two instances must be considered during the One-Way ANOVA test procedure:

1. If the result of Levene's test is insignificant ( $P > .05$ ), an ANOVA test may be conducted. If the P-value from the ANOVA test findings is insignificant ( $P > .05$ ), it may be assumed that there is no difference between the groups. However, if the P-value in the ANOVA test result is significant ( $P < .05$ ), it may be determined that there is a statically significant difference between the groups.
2. If the P-value for Levene's test is significant ( $P < .05$ ), a robust test should be run instead of the ANOVA test, and the results of Welch and Brown-Forsythe should also be considered. Welch and Brown-Forsythe P value must be insignificant ( $P > .05$ ) to conclude that there are no significant differences between the groups. However, it can be inferred that there is a statistically significant difference between groups if the P-value for the Welch test is significant ( $P < .05$ ).

#### 5.4.1 Age

Table 10: ANOVA (age)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7.398	5	1.480	2.378	.040
Within Groups	131.313	211	.622		
TOTAL	138.711	216			



At a 5% significance level p-value (.040) shows a significant difference in the age groups toward mobile banking usage among EMU students, this implies that the model is well fitted for the study, and the overall regression model was significant, ( $F = 2.378$ ,  $p < .05$ ).

#### 5.4.1.1 Multiple Comparison

Multiple comparisons were performed to decide where the statistically significant difference occurs, i.e., between which groups.

Dependent Variable: MBU\_Mean

Turkey HSD

Table 11: Multiple comparison

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
<b>15 to 20</b>	21 to 26	.31596	.17857	.488	-.1976	.8295
	27 to 32	.56765*	.18049	.023	.0485	1.0868
	33 to 38	.49176	.24800	.356	-.2215	1.2050
	39 to 44	.41333	.48202	.956	-.9730	1.7997
	45 and above	-.045000	.57971	1.000	-1.7123	1.6223
<b>21 to 26</b>	15 to 20	-.31596	.17857	.488	-.8295	.1976
	27 to 32	.25170	.12114	.303	-.0967	.6001
	33 to 38	.17581	.20881	.959	-.4247	.7764
	39 to 44	.09738	.46307	1.000	-1.2345	1.4292
	45 and above	-.36096	.56406	.988	-1.9832	1.2613
<b>27 to 32</b>	15 to 20	-.56765*	.18049	.023	-1.0868	-.0485
	21-26	-.25170	.12114	.303	-.6001	.0967
	33 to 38	-.07589	.21045	.999	-.6812	.5294
	39 to 44	-.15432	.46382	.999	-1.4883	1.1797
	45 and above	-.61265	.56467	.887	-2.2367	1.0114
<b>33 to 38</b>	15 to 20	-.49176	.24800	.356	-1.2050	.2215
	21 to 26	-.17581	.20881	.959	-.7764	.4247
	27 to 32	.07589	.21045	.999	-.5294	.6812
	39 to 44	-.07843	.49402	1.000	-1.4993	1.1593
	45 and above	-.53676	.58973	.944	-2.2329	1.1593
<b>39 to 44</b>	15 to 20	-.41333	.48202	.956	-1.7997	.9730
	21 to 26	-.09738	.46307	1.000	-1.4292	1.2345
	27 to 32	.15432	.46382	.999	-1.1797	1.4883
	33 to 38	.07843	.49402	1.000	-1.3424	1.4993

	45 and above	-.45833	.72015	.988	-2.5295	1.6129
<b>45 and above</b>	15 to 20	.04500	.57971	1.000	-1.6223	1.7123
	21 to 26	.36096	.56406	.988	-1.2613	1.9832
	27 to 32	.61265	.56467	.887	-1.0114	2.2367
	33 to 38	.53676	.58973	.944	-1.1593	2.2329
	39 to 44	.45833	.72015	.988	-1.6129	2.5295

\*. The mean difference is significant at the 0.05 level.

According to table 5.9, only 15 to 20 years and 27 to 32 years have a significant mean difference. Thus, there is a statistically significant difference between these groups and their usage of mobile banking.

#### 5.4.2 Marital Status

Table 12: ANOVA (Marital status) MBU\_Mean

	Sum of Square	df	Mean Square	F	Sig.
Between Groups	.412	2	.206	.319	.728
Within Groups	138.300	214	.646		
TOTAL	138.712	216			

At a 5% significance level p-value (0.728) shows there is no significant difference between marital status and mobile banking usage among EMU students,  $F(2, 214) = .319, p > .05$ . This implies that being single, divorced, or married played no role in using mobile banking.

#### 5.4.3 Education

Table 13: ANOVA (Education) MBU\_mean

	Sum of Square	Df	Mean Square	F	Sig.
Between Groups	3.421	3	1.140	1.795	.149
Within Groups	135.290	213	.635		
TOTAL	138.711	216			

The level of Education has no meaningful relationship with mobile banking usage.  $F(3, 213) = 1.795$ .  $p > .05$ ). This implies that the difference in educational level does not affect mobile banking usage.

## 5.5 Reliability of the Scale

One of the most often used measures of internal consistency is Cronbach's alpha (Pallant J., 2010). To supply a gauge for logical consistency of a scale or test, Lee Cronbach created alpha in 1951. An integer between 0 and 1 is used to stand for the alpha (Tavakol & Dennick, 2011).

Cronbach's alpha coefficient should be larger than 0.6 for it to be considered significant (Churchill, 1979).

Table 14: Cronbach's alpha test for reliability

Scale	Cronbach's Alpha
Perceived Security	.727
Perceived cost	.197
Awareness	.661
PEOU	.860
Social Influence	.757
Mobile banking Usage	.665

All our scales are reliable, as shown in the table above, since they are greater than 0.6, apart from perceived cost (.197), which will be dropped since its Cronbach's Alpha value was below the required criterion of 0.6. It can be deduced that all the scales used in this research except for perceived cost are reliable and that the questions used for each scale in the questionnaire are interconnected.

## 5.6 Correlation Analysis

Through correlation analysis, the strength and direction of the linear relationship between two variables are determined (Pallant J., 2010). Only values between -1 and +1 can be given to a Pearson correlation coefficient (r). The positive and negative signs show how the increase and decrease of one variable affect the others. Without respect to the sign, the size of the absolute value shows how strong the association is.

Perfect positive correlation, perfect negative correlation, and no correlation at all are all shown by correlation values of 1.0, -1.0, and 0, respectively. However, several rules may be used to define the range of numbers from 0 to 1. According to Cohen (1988), referenced in Pallant (2010), ratings ranging from 0.10 to 0.29 indicate a weak correlation, 0.30 to 0.49 indicates a medium correlation, and 0.50 to 1.0 indicates a high correlation between the variables.

Table 15: Correlation analysis

		PS Mean	PC Mean	AW Mean	PEOU Mean	SI Mean	MBU Mean
PS Mean	Pearson Correlation	1	.361**	-.090	-.199**	-.164*	-.070
	Sig. (2-tailed)		.000	.189	.003	.016	.301
	N	217	217	217	217	217	217
PC Mean	Pearson Correlation	.361**	1	.152*	.044	-.028	.131
	Sig. (2-tailed)	.000		.025	.515	.675	.054
	N	217	217	217	217	217	217
AW Mean	Pearson Correlation	-.090	.152*	1	.448**	.538**	.665**
	Sig. (2-tailed)	.189	.025		.000	.000	.000
	N	217	217	217	217	217	217
PEOU Mean	Pearson Correlation	-.199**	.044	.448**	1	.473**	.682**
	Sig. (2-tailed)	.003	.515	.000		.000	.000

	tailed)						
	N	217	217	217	217	217	217
SI Mean	Pearson Correlation	-.164*	-.029	.538**	.473**	1	.774**
	Sig. (2- tailed)	.016	.675	.000	.000		.000
	N	217	217	217	217	217	217
MBU Mean	Pearson Correlation	-.070	.131	.665**	.682**	.774**	1
	Sig. (2- tailed)	.301	.054	.000	.000	.000	
	N	217	217	217	217	217	217

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

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

### 5.6.1 Mobile Banking Usage and Perceived Security

The information in the table above shows that there is a -0.070-correlation coefficient between these two variables. Consequently, it is possible to note that it is no statistically significant ( $P > 0.01, 0.05$ ), weak, and negative linear relationship between mobile banking usage and perceived security.

### 5.6.2 Mobile Banking usage and Awareness

The information in the table above shows that there is a 0.665 correlation coefficient between the two constructs. Consequently, it is possible to say that it is a statistically significant ( $p < 0.01$ ), large, and positive linear relationship between mobile banking usage and awareness.

### 5.6.3 Mobile Banking Usage and Perceived Ease of Use

The correlation coefficient between the two variables is 0.682, as can be seen in the table above. Consequently, it may be said to be statistically significant ( $P < 0.01$ ), and there is a significant, positive linear relationship between PEOU and mobile banking use.

#### 5.6.4 Mobile Banking Usage and Social Influence

The statistics in the table above show that there is a 0.774 correlation coefficient between the two variables. Therefore, it can be said that there is a statistically significant ( $P < 0.01$ ), positive linear relationship between the use of mobile banking and social influence.

#### 5.7 Regression Analysis

Regression analysis is a statistical approach for determining how closely one dependent variable is connected to several other changing variables. (Independent variables). Regression expresses how independent variables change the dependent variables.

Using the model summary tables, we will describe the relationships between the independent variables in this section. The outputs are shown in tables 5.14, 5.15, and 5.16, respectively.

Table 16: Model summary

Model	R	R Squared	Adjusted R Square	Std. error of the Estimate
1	.886 <sup>a</sup>	.785	.780	.37601

a. Predictors: (Constant), SI\_Mean, PC\_Mean, PS\_Mean, PEOU\_Mean, AW\_Mean

b. Dependent Variable: MBU\_Mean

From the above table,  $R^2$  (which is the coefficient of determination) is 78.5% taken as a set of predictors, this means that the explanatory variables (perceived security, complexity, awareness, and social influence) introduced in the model explains approximately (78.5%) of the variance in the dependent variable (mobile banking usage). The R which is the coefficient correlation has shown a correlation of (.886). the adjusted  $R^2 = 78\%$ . Given the variations in independent variables may be used to

account for variations in mobile banking usage, the model has excellent exploratory power and the regression is a good fit.

Table 17: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
Regression		108.879	5	21.776	154.018	.000 <sup>b</sup>
Residual		29.832	211	.141		
Total		18.711	216			

a. Dependent Variable: MBU\_Mean

b. Predictors: (Constant), SI\_Mean, PC\_Mean, PS\_Mean, PEOU\_Mean, AW\_Mean

We make use of the ANOVA table to see whether the overall model is right and well-fitted. We have  $F(216) = 154.018$ ,  $p < 0.05$ . As a result, we may conclude that the independent factors, perceived security, perceived cost, awareness, PEOU, and social influence statistically substantially affect mobile banking usage. The overall fit of the F-statistics in the ANOVA table is statistically significant at a 0.05 significance level. According to this, the model fits perfectly for the research. It also shows that the regression has worked as expected, revealing a relationship between the dependent and the independent variables.

Table 18: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.472	.141		-3.342	.001
PS_Mean	.048	.021	.079	2.248	.026
PC_Mean	.064	.035	.064	1.826	.069
AW_Mean	.191	.032	.239	5.975	.000
PEOU_Mean	.356	.038	.356	9.355	.000
SI_Mean	.440	.036	.492	12.236	.000

a. Dependent Variable: MBU\_Mean

The table above shows the predictive power for each independent variable separately.

The findings of the regression reveal the elements that affect how EMU students use mobile banking. In this study, it was determined that four out of the five variables had a positive and significant effect on the use of mobile banking.

1. Perceived Security ( $\beta = .079$ ,  $p = .026$ ). considering the results, perceived security positively predicts mobile banking usage. Therefore, if perceived security increases by 1 unit, mobile banking usage will increase by 7.9%.
2. Awareness ( $\beta = .239$ ,  $p = .000$ ). Considering this result, awareness positively predicts mobile banking usage. So, for every 1-unit increase in awareness, mobile banking usage will increase by 23.9%.
3. Perceived Ease of Use ( $\beta = .356$ ,  $p = .000$ ). Considering this result, PEOU positively predicts mobile banking usage, so, for every 1-unit increase in PEOU, mobile banking usage will increase by 35.6%.
4. Social Influence ( $\beta = .492$ ,  $p = .000$ ). Considering this result, social influence positively affects mobile banking usage. So, for every 1-unit increase in social influence, mobile banking usage will increase by 49.2%.

Because perceived cost had no significant predictive power on our dependent variable, we omitted it from the chart below. We also included our beta coefficients to show the size of each factor's impact.



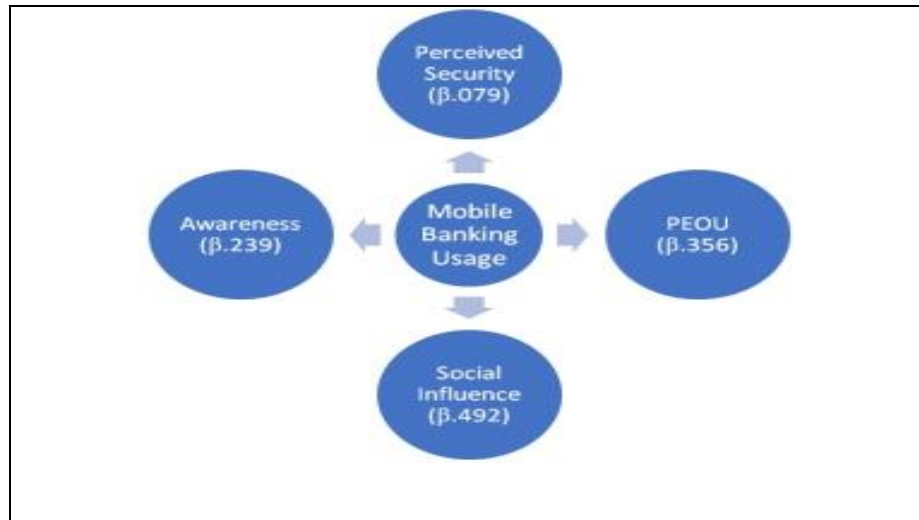


Figure 8: Conceptual framework

## 5.8 Hypothesis Testing

H1: Perceived Security has a positive and significant effect on mobile banking usage among EMU students.

Perceived security has a significant positive impact on mobile banking usage among EMU students; ( $\beta = .079$ ,  $t = 2.348$ ). Therefore, the null hypothesis is rejected at a 0.05% significance level. This shows that students of EMU are comfortable using mobile banking, they feel their transaction is secured, and no third party can access their logins and Passwords. This finding is in line with Wang et al., (2004) who discovered that perceived security had a significant positive impact on the behavioral intention to use mobile banking in Taiwan.

H3: Awareness has a positive and significant effect on mobile banking usage among EMU students.

I would use mobile banking if I had someone else using it; among my peers, I am usually the first to try out innovative technologies; in general, I am apprehensive

about experimenting with current information technology; I am interested to hear about new technological development; if I heard about current information technology, I would find ways to experiment with. All of these were used to measure awareness.

The output in 5.12 reveals that awareness ( $\beta = .239$ ,  $t = 5.975$ ) has a significant positive impact on mobile banking usage among EMU students. At a 0.05% significance level, the null hypothesis is rejected. This suggests that EMU students are positive about trying out modern technologies, and are eager to hear about modern technologies, which in turn made most students use mobile banking. This is consistent with Sathye's research (1999), which found awareness to be a positive significant factor affecting mobile banking.

H4: PEOU has a positive and significant effect on mobile banking usage among EMU students.

I have a well-developed ability to operate computers; learning to operate M-banking is easy for me; it is easy to adopt M-banking to accomplish banking transactions; using M-banking I can easily send and receive money; interaction with mobile banking does not require a lot of mental effort, were used to measure the PEOU effect on mobile banking usage.

The output from table 5.12 shows that PEOU ( $\beta = .356$ ,  $t = 9.355$ ) has a significant positive impact on mobile banking usage among EMU students. At a significance level of 0.05, the null hypothesis is rejected. This suggests that since all EMU students are well educated, making use of mobile banking will not pose a threat to

them, and, since most students interact online daily using computers, laptops, smartphones, tablets, etc. making use of mobile banking was simplified. This result is consistent with Prashansha (1999) who found Perceived Ease of Use a significant factor affecting mobile banking uptake in Sri Lanka.

H5: Social influence has a positive and significant effect on mobile banking usage among EMU students.

People who are important to me think I should use mobile banking services; people who influence my behavior think I should use mobile banking; I find mobile banking trendy; the use of mobile banking gives me professional status; my friends and family value the use of mobile banking, were used to measure the social influence impacts.

The output in table 5.12 shows that social influence ( $\beta = .492$ ,  $t = 12.232$ ) has a significant, positive effect on EMU students' use of mobile banking. At a significance level of 0.05, the null hypothesis is hereby rejected. This suggests that the high impact of social influence shows that EMU students are influenced by their family, friends, and trends on social networks. These results are consistent with the research of Zhou et al. (2010).

## **Chapter 6**

### **CONCLUSION**

#### **6.1 Introduction**

This study's first five chapters gave a thorough overview of the research topic. The terms "mobile banking," "perceived security," "perceived cost," "awareness," "social influence," and "PEOU" have been thoroughly explored in academic literature.

After introducing the model's principles, hypotheses related to the connections between constructs were set up, and a questionnaire was supplied to collect data for analysis. in chapter 5, these data were evaluated and the findings were shown.

The study's summary, management implications, and suggestions are presented in this chapter. It also covers the implications of the study's main finding, which is presented in chapter five. The study concluded with limitations and suggestions for future studies.

#### **6.2 Main Findings Summary**

The key results of this research may be described under three subheadings; demographic data analysis, reliability test, and testing of hypothesis.

Mobile banking services are a little bit more popular with females than males according to the demographics. Most of those participants were single, between the

ages of 21 and 32, with undergraduates and master's degrees being the dominant educational level, and finally, most respondents were users of mobile banking.

The majority of those who took the survey were in their twenties and thirties, signifying a demographic that is naturally open to experimenting with innovative technologies like mobile banking.

In regards to the independent factors, perceived security, awareness, PEOU, and social influence are all major factors in EMU students' use of mobile banking, according to the findings. Additionally, to increase the accuracy of the conclusions, the perceived cost component resulting from measurement errors discovered by Cronbach's Alpha was eliminated.

### **6.3 Managerial Implications**

The fast development of information and communication technology has made it easier to live a more pleasant life. Mobile banking has been hailed as a major advancement in financial technology. This technology is being used by experts to make their everyday operations more efficient and secure, and they may connect with their consumers at any time, and from any location.

This study will be beneficial for North Cyprus banks that want to gain from mobile banking services. Technology is developing at a breakneck pace in the modern world, and people are growing increasingly on it due to the simplicity, speed, and comfort it gives. Because it is quick and involves little effort, people prefer to complete their jobs using computers, tablets, phones, etc.

Young adults are the group of individuals who are most accustomed to and at ease with using technology. Banks may thus target these young individuals and provide technology-related services to gain advantages. Since this study is about mobile banking usage and the study's target group is EMU students, banks in North Cyprus may gain from offering these students varieties of mobile banking services.

Mobile banking literature will receive aid from this research since it sheds insight into the elements that influence students' usage of mobile banking. With branch banking, banks are unable to reach all their customers because of various locations. Mobile banking may therefore be used by banks as a strategic instrument for expanding their customer base and supplying financial services more efficiently. Banks must also consider all aspects affecting mobile banking usage and devise ways to meet their needs and expectations. When formulating a mobile banking strategy, banks should consider all relevant issues.

Furthermore, according to the findings, security has a positive effect on mobile banking usage, so banks can also increase the solution by launching a variety of awareness programs about security concerns and steps they have taken to ensure user details are safe and secure. Also, to increase customer awareness, banks should actively promote the use of the services. Social influences have a significant impact on how people use services because they consult their friends and family before using mobile banking. According to the results, banks should use social media to educate clients about mobile banking and the numerous services it provides. Furthermore, the impact of perceived ease of use on mobile banking was also seen to be significant, banks should find ways to minimize congestion and make their apps, websites, etc., more friendly, and easier to use for customers.

## **6.4 Limitations to the Study**

Although these research supplies findings which are useful for understanding factors affecting mobile banking usage, the study has several drawbacks:

The selection of the model was the study's initial flaw, which does not incorporate all the variables from other mobile banking usage studies, which plays a significant shortcoming.

The second limitation of the research was the confinement of the sample population to just students of EMU, their responses might not reflect the perception of the total students in North Cyprus.

Also, another limitation was the English language in which the questionnaire was drafted, some of the respondents could not read, to make the questionnaire filling process easier, we had to use Google Translate.

Among the study's limitations was the refusal of respondents to complete the questionnaire. Because the survey was conducted during the midterm exams, most respondents were preoccupied with studying and did not want anything to take their attention away from their studies.

The final limitation relates to mobile banking. Only students who have used mobile banking are covered by the study; students without such experience were left out of the study.

## **6.5 Suggestions for Future Studies**

There has not been a detailed investigation of how demographic factors like age, gender, educational attainment, and culture affect mobile banking. Some demographic characteristics have interrelationships that may affect mobile banking usage. According to Lee (2009), people's cognitive inclination to risk varies between cultures. This suggests that those cultural variations may affect customers' usage of mobile banking. Future studies can extend the research to include cultural differences as a moderating factor in mobile banking usage.

Also, several works of literature have been seen to back up many factors affecting mobile banking usage, future studies can make use of demographics like age, country, income, etc., as moderators.

In conclusion, since our target population is limited to EMU students, future studies can also extend the research to include all other students from different universities across North Cyprus.

## **6.6 Conclusion**

This study was effective in identifying the parameters impacting EMU students' use of mobile banking. The study findings indicated that perceived security, awareness, social influence, and perceived ease of use, apart from (perceived cost), are factors affecting mobile users' use of mobile banking services. To boost consumers' propensity to use mobile banking services in the future, this study has provided banks with vital insights and information.



This investigation would have shown better findings if it had not been confined to students from Eastern Mediterranean University, since incorporating students from many universities across North Cyprus may have yielded better results.

In conclusion, aspects that were excluded from this study, such as the ethnic diversity of the user, may significantly impact the adoption and use of mobile banking. Still, it is possible to assume that mobile banking service firms that are prepared to deliver useful and cost-effective solutions will win a significant market share.

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## **APPENDICES**

## Appendix A: Questionnaire



### Questionnaire

This academic project is concerned with the factors affecting mobile banking usage among students at Eastern Mediterranean University (TRNC). Taking the time to complete the questionnaire is vitally important and your contribution is highly appreciated. Your responses will remain anonymous and be treated in the strictest of confidence. There are no right or wrong answers; what matters is your honest opinion. Thank you very much for your help.

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#### SECTION A

##### Demographic Profile

QA 1: Gender:

Male ☐ 1 Female ☐ 2

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QA 2: Age:

15-20 ☐ 1 21-26 ☐ 2 27-32 ☐ 3 33-38 ☐ 4 39-44 ☐ 5 45-50 ☐ 6

---

QA 3: Marital status:

Single ☐ 1 Married ☐ 2 Divorced ☐ 3

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QA 4: Highest Academic Qualification:

High School ☐ 1 Diploma ☐ 2 Undergraduate ☐ 3 Master and above ☐ 4

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QA 5: Mobile banking:

User ☐ 1 Non-user ☐ 2

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## SECTION B

### FACTORS AFFECTING MOBILE BANKING USAGE AMONG STUDENTS

This section is seeking your opinion regarding the various factors affecting the use of Mobile Banking. Respondents are asked to indicate the extent to which they agreed or disagreed with each statement using 5 Likert scale [(1) = strongly agree; (2) = agree; (3) = Somewhat agree; (4) = Neutral, (5) = Somewhat disagree, (6) = Disagree, and (7) = Strongly disagree.] response framework. Please tick or mark one number per line to indicate the extent to which you agree or disagree with the following statements

Q1. Please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
A. I fear that hackers may be able to gain access to my internet banking accounts.	1	2	3	4	5	6	7
B. I am concerned that third parties may be able to access my financial details	1	2	3	4	5	6	7
C. I fear that the list of PIN codes may be lost and end up in the wrong hands	1	2	3	4	5	6	7
D. Using M-Banking, I believe my transactions are secured	1	2	3	4	5	6	7
E. I am concerned that third parties may track my bank patterns	1	2	3	4	5	6	7

Q2. Please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
A. Information Technology devices (laptops, computers, smartphones) are too expensive	1	2	3	4	5	6	7
B. Internet banking services are too expensive for me	1	2	3	4	5	6	7
C. Adoption of mobile banking services saves costs.	1	2	3	4	5	6	7

D. High expenses put me in a unique situation resulting in managing funds differently.

1	2	3	4	5	6	7
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E. Using mobile banking will save me money.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Q3: Please indicate the extent to which you agree or disagree with each of the following statements.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
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A. I would use mobile banking if I had someone else using it.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

B. Among my peers, I am usually the first to try out new technologies.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

C. In general, I am apprehensive about experimenting with new information technology.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

D. I am interested to hear about new technological developments

1	2	3	4	5	6	7
---	---	---	---	---	---	---

E. If I heard about new information technology, I would find ways to experiment with it.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Q4. Please indicate the extent to which you agree or disagree with each of the following statements.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
----------------	-------	----------------	---------	-------------------	----------	-------------------

A. I have a well-developed ability to operate computers.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

B. Learning to operate M-Banking is easy for me;

1	2	3	4	5	6	7
---	---	---	---	---	---	---

C. It is easy to adopt M-Banking to accomplish banking transactions

1	2	3	4	5	6	7
---	---	---	---	---	---	---

D. Using M-Banking I can easily send and receive money

1	2	3	4	5	6	7
---	---	---	---	---	---	---

E. Interaction with mobile banking does not require a lot of mental effort.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Q5. Please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
A. People who are important to me think I should use mobile banking services	1	2	3	4	5	6	7
B. People whose influence my behavior think I should use mobile banking.	1	2	3	4	5	6	7
C. I find mobile banking trendy.	1	2	3	4	5	6	7
D. The use of mobile banking gives me professional status	1	2	3	4	5	6	7
E. My friends and family value the use of mobile banking.	1	2	3	4	5	6	7

Q6. Please indicate the extent to which you agree or disagree with each of the following statements

	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
A. I will always try to use mobile banking services in my daily life	1	2	3	4	5	6	7
B. I use mobile banking service frequently to get information on my account	1	2	3	4	5	6	7
C. I intend to continue using mobile banking services	1	2	3	4	5	6	7
D. I prefer to use mobile banking over the traditional bank method	1	2	3	4	5	6	7

THANK YOU VERY MUCH FOR YOUR PARTICIPATION



## Appendix B: Data Analysis

### Correlation



		Correlations					
		PS_Mean	PC_Mean	AW_Mean	CO_Mean	SI_Mean	MBU_Mean
PS_Mean	Pearson Correlation	1	.361**	-.090	-.199**	-.164*	-.070
	Sig. (2-tailed)		.000	.189	.003	.016	.301
	N	217	217	217	217	217	217
PC_Mean	Pearson Correlation	.361**	1	.152*	.044	-.029	.131
	Sig. (2-tailed)	.000		.025	.515	.675	.054
	N	217	217	217	217	217	217
AW_Mean	Pearson Correlation	-.090	.152*	1	.448**	.538**	.665**
	Sig. (2-tailed)	.189	.025		.000	.000	.000
	N	217	217	217	217	217	217
CO_Mean	Pearson Correlation	-.199**	.044	.448**	1	.473**	.682**
	Sig. (2-tailed)	.003	.515	.000		.000	.000
	N	217	217	217	217	217	217
SI_Mean	Pearson Correlation	-.164*	-.029	.538**	.473**	1	.774**
	Sig. (2-tailed)	.016	.675	.000	.000		.000
	N	217	217	217	217	217	217
MBU_Mean	Pearson Correlation	-.070	.131	.665**	.682**	.774**	1
	Sig. (2-tailed)	.301	.054	.000	.000	.000	
	N	217	217	217	217	217	217

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

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

### T-test (Gender)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
				F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
		Lower	Upper							
MBU_Mean	Equal variances assumed	2.124	.146	.624	215	.533	.06628	.10947	-.14749	.28405
	Equal variances not assumed			.620	201.136	.536	.06628	.11019	-.14901	.28556

### T-test (User)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
				t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.						Lower	Upper
MBU_Mean	Equal variances assumed	2.061	.153	-4.508	215	.000	-.95628	.21215	-1.37444	-.53812
	Equal variances not assumed			-3.673	14.144	.002	-.95628	.26035	-1.51413	-.39843

## ANOVA

MBU\_Mean

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.398	5	1.480	2.378	.040
Within Groups	131.313	211	.622		
Total	138.711	216			

## Multiple Comparisons

Dependent Variable: MBU\_Mean

Tukey HSD

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
15 to 20	21 to 26	.31596	.17857	.488	-.1976	.8295
	27 to 32	.56765	.18049	.023	.0485	1.0868
	33 to 38	.49176	.24800	.356	-.2215	1.2050
	45 and above	-.04500	.57971	1.000	-1.7123	1.6223
	39 to 44	.41333	.48202	.956	-.9730	1.7997
21 to 26	15 to 20	-.31596	.17857	.488	-.8295	.1976
	27 to 32	.25170	.12114	.303	-.0967	.6001
	33 to 38	.17581	.20881	.959	-.4247	.7764
	45 and above	-.36096	.56406	.988	-1.9832	1.2613
	39 to 44	.09738	.46307	1.000	-1.2345	1.4292
27 to 32	15 to 20	-.56765	.18049	.023	-1.0868	-.0485
	21 to 26	-.25170	.12114	.303	-.6001	.0967
	33 to 38	-.07589	.21045	.999	-.6812	.5294
	45 and above	-.61265	.56467	.887	-2.2367	1.0114
	39 to 44	-.15432	.46382	.999	-1.4883	1.1797
33 to 38	15 to 20	-.49176	.24800	.356	-1.2050	.2215
	21 to 26	-.17581	.20881	.959	-.7764	.4247
	27 to 32	.07589	.21045	.999	-.5294	.6812
	45 and above	-.53676	.58973	.944	-2.2329	1.1593
	39 to 44	-.07843	.46402	1.000	-1.4993	1.3424
45 and above	15 to 20	.04500	.57971	1.000	-1.6223	1.7123
	21 to 26	.36096	.56406	.988	-1.2613	1.9832
	27 to 32	.61265	.56467	.887	-1.0114	2.2367
	33 to 38	.53676	.58973	.944	-1.1593	2.2329
	39 to 44	.45833	.72015	.988	-1.6129	2.5295
39 to 44	15 to 20	-.41333	.48202	.956	-1.7997	.9730
	21 to 26	-.09738	.46307	1.000	-1.4292	1.2345
	27 to 32	.15432	.46382	.999	-1.1797	1.4883
	33 to 38	.07843	.46402	1.000	-1.3424	1.4993
	45 and above	-.45833	.72015	.988	-2.5295	1.6129

\*. The mean difference is significant at the 0.05 level.

# ANOVA (Marital Status)

## ANOVA

MBU\_Mean

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.412	2	.206	.319	.728
Within Groups	138.300	214	.646		
Total	138.711	216			

# ANOVA (Education)

## ANOVA

MBU\_Mean

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.421	3	1.140	1.795	.149
Within Groups	135.290	213	.635		
Total	138.711	216			

# Regression

## Model Summary<sup>a</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.886 <sup>a</sup>	.785	.780	.37601

a. Predictors: (Constant), SI\_Mean, PC\_Mean, PS\_Mean, CO\_Mean, AW\_Mean

b. Dependent Variable: MBU\_Mean

## ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	108.879	5	21.776	154.018	.000 <sup>b</sup>
Residual	29.832	211	.141		
Total	138.711	216			

a. Dependent Variable: MBU\_Mean

b. Predictors: (Constant), SI\_Mean, PC\_Mean, PS\_Mean, CO\_Mean, AW\_Mean

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	-.472	.141	-3.342	.001
	PS_Mean	.048	.021	.079	.026
	PC_Mean	.064	.035	.064	.069
	AW_Mean	.191	.032	.239	.000
	CO_Mean	.356	.038	.356	.000
	SI_Mean	.440	.036	.492	.000

a. Dependent Variable: MBU\_Mean