

**A Systematic Literature Review and Analysis on
Trends in Mobile Commerce Applications Usage for
Shopping and Consumer Behavior:
Case of Pakistan**

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Final International University
July 2023
Girne, North Cyprus

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By

Waleed Ahmed

A thesis submitted to the Institute of Graduate Studies in partial fulfillment
of the requirements for the Degree of Master in Business Administration

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Girne, North Cyprus



**FINAL INTERNATIONAL UNIVERSITY
INSTITUTE OF GRADUATE STUDIES**

APPROVAL

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We certify that we approve this thesis submitted in partial fulfillment of requirements for the degree of Master in Business Administration.

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*In loving memory of my hero my late father Alhaj Gulfaraz Khan, my inspiration to
achieve new heights.*

ETHICAL DECLARATION

I, Waleed Ahmed, hereby, declare that I am the sole author of this thesis, and it is my original work. I declare that I have followed ethical standards in collecting and analyzing the data and accurately reported the findings in this thesis. I have also properly credited and cited all the sources included in this work.

Waleed Ahmed

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ABSTRACT

Mobile commerce applications have transformed the way people shop by enabling ease, accessibility, and personalized experiences. Motive of this structured review and analysis is to investigate the correlations between various characteristics and consumers' Usage Intention (UI) for mobile commerce applications.

This study evaluates the effects of these characteristics on customers' intent to utilize mobile commerce applications by synthesizing and analyzing relevant research papers. The data show that Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Social Influence (SI), Facilitating Conditions (FC), Trust (TR), and Perceived Financial Risk (PFR), all of them have an impact on customers' usage intentions.

These findings have important implications for marketers and developers looking to improve the design, functionality, and trustworthiness of mobile commerce applications. Businesses can better coordinate their efforts in order to promote wonderful user experiences, enhance the rate of adoption, and optimize the potential of mobile commerce applications by recognizing these features.

Future research directions and marketing ideas are also presented in order to increase our comprehension of mobile commerce usage intention and customer behavior in this dynamic industry.

Keywords: Usage Intention, Perceived Ease of Use, Perceived Usefulness, Social Influence, Facilitating Conditions, Trust, and Perceived Financial Risk

ÖZ

Bu yapılandırılmış derleme ve analizin amacı, mobil ticaret uygulamalarının kolaylık, erişilebilirlik ve kişiselleştirilmiş deneyimler sağlayarak alışveriş yapma şeklimizi dönüştürmesidir. Bu çalışma, ilgili araştırma makalelerini sentezleyerek ve analiz ederek çeşitli özellikler ile tüketicilerin mobil ticaret uygulamalarını kullanma niyetleri arasındaki ilişkileri incelemektedir. Veriler, Algılanan Kullanım Kolaylığı (AKK), Algılanan Faydalılık (AF), Sosyal Etki (SE), Kolaylaştırıcı Koşullar (KK), Güven (GV) ve Algılanan Finansal Risk (AFR) faktörlerinin tümünün müşterilerin kullanım niyetleri üzerinde etkisi olduğunu göstermektedir.

Bu bulgular, mobil ticaret uygulamalarının tasarımı, işlevselliği ve güvenilirliğini geliştirmek isteyen pazarlamacılar ve geliştiriciler için önemli sonuçlar taşımaktadır. Bu özellikleri tanıyarak işletmeler, harika kullanıcı deneyimlerini teşvik etmek, benimseme oranını artırmak ve mobil ticaret uygulamalarının potansiyelini optimize etmek için çabalarını daha iyi koordine edebilirler.

Ayrıca, bu dinamik sektörde mobil ticaret kullanım niyeti ve müşteri davranışı konusundaki anlayışımızı artırmak için gelecekteki araştırma yönergeleri ve pazarlama fikirleri sunulmaktadır.

Anahtar Kelimeler: Kullanım Niyeti, Algılanan Kullanım Kolaylığı, Algılanan Faydalılık, Sosyal Etki, Kolaylaştırıcı Koşullar, Güven ve Algılanan Finansal Risk.

TABLE OF CONTENTS

DEDICATION	v
ETHICAL DECLARATION	vi
ACKNOWLEDGEMENTS	vii
ABSTRACT	viii
ÖZ.....	ix
LIST OF TABLES	xiii
LIST OF FIGURES.....	xiv
LIST OF APPENDICES	xv
LIST OF ABBREVIATIONS	xvi
CHAPTER 1.....	1
INTRODUCTION.....	1
1.1. Problem Statement.....	3
1.2. Purpose of the Study.....	3
1.3. Significance of the Study	4
1.4. Research Questions	4
1.5. Assumptions	6
1.6. Limitations.....	7
1.7. Definition of Key Terminology.....	7
CHAPTER 2.....	9
LITERATURE REVIEW	9
2.1 Intentions and Behaviors	13
2.2. Dimensions of m-commerce adoption	14
2.3. Social Influence	14
2.4. Facilitating Conditions	15
2.5. Trust.....	16
2.6. Perceived Financial Risk (PFR)	17
CHAPTER 3.....	19
METHODS.....	19

3.1. Research Design	19
3.2. Research Philosophy	19
3.3. Research Strategy	19
3.4. Research Choice	20
3.5. Population and Sampling.....	20
3.5.1 Demographics	20
3.6. Instruments and Procedures of Data Collection	22
3.7. Data Analysis Procedures.....	23
3.8. Designing the Questionnaire	23
3.9. Questionnaire Format	24
3.10. Data Accuracy and Filtration.....	31
CHAPTER 4.....	33
DATA ANALYSIS RESULTS.....	33
4.1 Preliminary Data Analysis.....	33
4.2 Exploratory Factor Analysis (EFA).....	33
4.3 Reliability of Instrument.....	34
4.4 Regression and Correlation	35
CHAPTER 5.....	41
CONCLUSIONS AND IMPLICATIONS	41
5.1. Discussions	41
5.2. Conclusion.....	44
5.2.1. Perceived Usefulness	44
5.2.2. Perceived Ease of Use.....	44
5.2.3. Social Influence	45
5.2.4. Facilitating Conditions.....	45
5.2.5. Trust	45
5.2.6. Perceived Financial Risk.....	46
5.3. Comparison with Previous Studies: Similarities and Differences.....	46
5.4. Limitation	48
5.5. Implications	48
REFERENCES.....	51
APPENDICES.....	59
Appendix A Survey Questionnaire	59

Appendix B Ethics Committee Approval.....65

LIST OF TABLES

Table 1 Gender wise Profile.....	21
Table 2 Age Wise Profile.....	21
Table 3 Income wise Profile	22
Table 4 Constructs and scale items	24
Table 5 KMO and Bartlett's Test of Sphericity.....	34
Table 6 Reliability.....	35
Table 7 Regression.....	36
Table 8 Hypothesis Results.....	38
Table 9 Correlation	39

LIST OF FIGURES

Figure 1 Theoretical Framework.....	5
Figure 2 Likert Scale.....	22

LIST OF APPENDICES

Appendix A Survey Questionnaire	59
Appendix B Ethics Committee Approval	65

LIST OF ABBREVIATIONS

AMOS	Asset Management Operating System
DOI	Diffusion of Innovation
EFA	Exploratory Factor Analysis
FC	Facilitating Conditions
H	Hypothesis
IOT	Internet of Things
KMO	Kaiser-Meyer-Olkin
MBA	Master in Business Administration
M-commerce	Mobile Commerce
PANAS	Positive and Negative Affect Scale
PCA	Principal Components Analysis
PEOU	Perceived Ease of Use
PFR	Perceived Financial Risk
PKR	Pakistani Rupee
PU	Perceived Usefulness
SAS	Statistical Analysis System
SI	Social Influence
SPSS	Statistical Package for the Social

Sciences

STATA	Statistics and Data
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
TR	Trust
TRA	Theory of Reasoned Action
TRNC	Turkish Republic of Northern Cyprus
UI	Usage Intention
UTAUT	The unified theory of acceptance and use of technology

CHAPTER 1

INTRODUCTION

With the elevation of technological advancements globally, different trends have illuminated the scene of mobile commerce. One of the most pervading trends definitely rises up to the mobile applications used for things that previously required a round trip physically. As addressed by (Chimborazo, Frassetto, & Mollá, 2021) Pertains to the notion of Business operations and elucidates how consumers interact with firms, a concept that has been revolutionized by technological improvements and the ease of availability of the internet. The increasing sensibility refers to the advent of mobile commerce that has risen the usage of smartphones globally. The whole notion of electric commerce allows customers to evaluate the product they need at different online stores without having to physically visit the stores. Awiagah et al. (2015) describe E-commerce as any type of purchasing and selling done online through a computer. In a fast-paced world where time is money, these trends have opened a new persona of business worldwide.

Yadav (2016) illuminates e-commerce and online shopping are being incorporated into the ideals of the accessibility of high-speed 3G/4G internet connections, the rise in sales of smartphones and tablets, the affordability of internet access, and the availability of user-friendly mobile applications. These factors render the whole process of online consumer shopping ideal and advantageous to both, the customers and the companies. For instance, buyers can make wise decisions based on the convenience, portability, and mobility offered by mobile device use (Zhang et al., 2013).

A remodeling cost of a single software saves companies tons of money with the retrospect of the huge number of consumers reached within the premises. With reference to such technological advancements, companies can lower their marketing expenses, get real-time data, reach a larger audience, and deliver effectively, tailored adverts to their clients (Larivière et al., 2013). The usage of cellular phone devices in consumers' daily lives has also skyrocketed since the introduction of services like m-payments. Additionally, based on geographical differences, people in central and southern Europe preferred using mobile payments for food and retail purchases, whereas people in northern Europe preferred using them for services like transportation.

In consideration of attitudes towards these advancements, Yadav (2016) considers mobile technologies to be more positively accepted with an increase in positive inclination from customers. Researchers need to dig deeper into the implementation of m-commerce technologies in emerging nations cause of strength of economic and political stability as well as variances in cultures and communities (Ashraf et al., 2017). This rapid explosion of advancements has directly influenced the behavior of Pakistanis where the abundance of mobile applications usage was no way near its present level. The increase in telecom infrastructure had led to a theatrical surge in the density subscribers of telephone.

The study pertains to the analysis of the technological mobile trends associated with online shopping and customers' attitude toward these innovations. The study relates the observation of these trends in reference to Pakistan, the country which has seen a rapid increase in the usage of these mobile applications.

1.1. Problem Statement

The popularity of online shopping has multiplied during the preceding decade as a result of factors including the widespread use of the Internet and time-saving benefits. The trends regarding the usage of mobile applications for clothes, food, and other items are persistently adherent to the consumer's level of acceptance of such demands. Following the COVID-19 pandemic, the decreased level of sociability with the outside world has opened the regime of online facilities provided through the click of a single touch. The relationship between the positive reliance of customers and the increased inscription rates of customer care services has redefined the industry on its own. The majority of the world's population, redeemed by the particular case of Pakistan, has shifted their preference from physical to online standards of using applications for various purposes.

The user experience and customer satisfaction with the buying process are positively impacted by properly optimizing marketing activities that have rendered these trends timeless factors. The study offers the opportunity for examination of the innovations in mobile applications and their recent increase. The perceived intention of Pakistani users is predominantly the main focus of this study which illuminates the processes through which social factors affect the usage intention of mobile commerce applications for online shopping across Pakistan.

1.2. Purpose of the Study

This study aims to analyze the relationship between preconceived preferences of Pakistani citizens and the elevated usage of commerce mobile applications for electronically shopping simultaneously. The study directly reflects the accepted ideas

regarding online shopping in Pakistan and the factors which affects customer's affirmation of these notions. Additionally, this study aims to provide an insight for online retailers in Pakistan on ways to attract and retain customers.

1.3. Significance of the Study

The study purposes to examine the impact of social features that alter the usage intention of mobile commerce applications for online shopping in Pakistan. The study is mainly focused on how the factors of perceived ease and usefulness on the part of Pakistani citizens pertain to the higher use of mobile applications to carry out shopping which was previously considered to be predominantly a physical endeavor. The results of this study will give online application companies existing in a culturally acclaimed country like Pakistan, invaluable insights to better understand and accommodate the needs and preferences of their clients.

For online retailers in Pakistan and other emerging nations, concentrating on the predictions that emerged from the study is essential. The outcomes of this research will support in the deduction of the social attitudes of Pakistani citizens and the ideals of the accepted notion of financial risk, technical ease, trustworthiness on the part of the online retailer, and perceived social conditions.

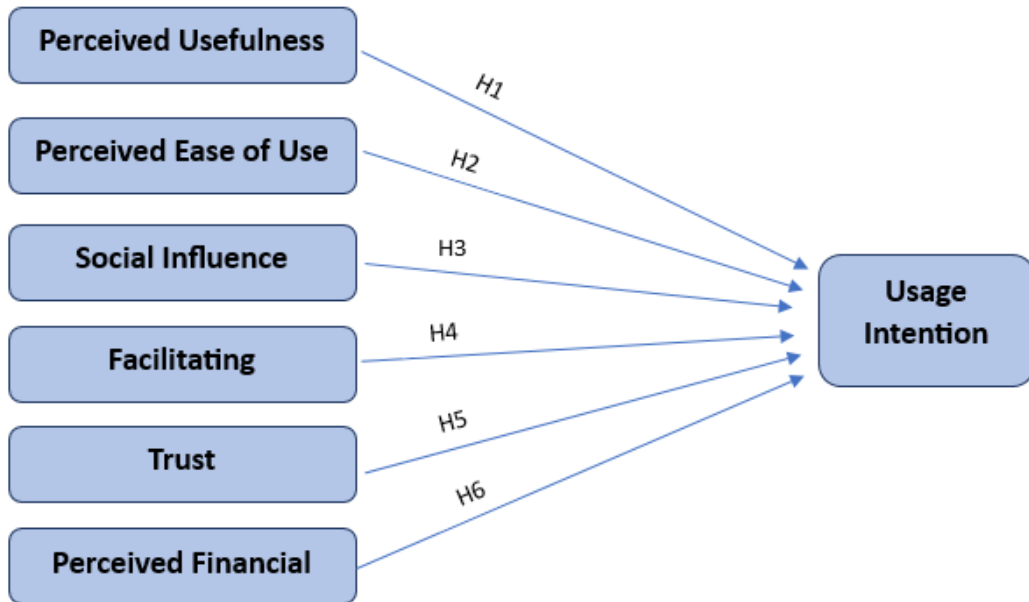
1.4. Research Questions

Based on below-mentioned theoretical framework, Usage intention is being dependent on aforementioned factors which are Perceived Usefulness, Perceived Ease of Use, Social Influence, Facilitating, Trust, and Perceived Financial Risk. The independent

variables do impact Usage intention in positive or negative manner, the actual impact of these independents can be found by analysis the relationship between them.

Figure 1

Theoretical Framework



To have better understanding about trends in mobile commerce applications usage for shopping and consumer behavior the mentioned below questions were established,

- How do consumers perceive the usefulness of mobile commerce applications for online shopping in Pakistan?
- How do consumers perceive the ease of use of mobile commerce applications for online shopping in Pakistan?
- How does social influence impact the intention to use mobile commerce applications for online shopping in Pakistan?

- How do facilitating conditions influence the intention to use mobile commerce applications for online shopping in Pakistan?
- How does trust affect the intention to use mobile commerce applications for online shopping in Pakistan?
- How does perceived financial risk impact the intention to use mobile commerce applications for online shopping in Pakistan?
- How do consumer behaviors differ when using mobile commerce applications for online shopping in Pakistan compared to traditional shopping methods?

1.5.Assumptions

This research is been conducted with mentioned below assumption being kept in mind,

- The respondents will be participating voluntarily and are aware of the reasons and objectives of this study
- Before participating in study, they are aware of their rights and term of data being used
- They will not possess any threat in future with respect to using for data gathered from them
- They will understand the questions of questionnaire to the best of their knowledge before answering them
- They will be providing us with honest review in shape of answers and they will not let their bias effect the answers

1.6.Limitations

As part of the Master in Business Administration program thesis, this research aims to be as comprehensive as possible. However, due to limitations in terms of time and resources, certain constraints need to be acknowledged and accommodated. Furthermore, since the research was conducted from Turkish Republic of Northern Cyprus, the primary data was primarily collected through Google Forms. Consequently, it is important to acknowledge the potential for personal bias in the data. Since the Google Form was in a digital format, it is possible that the respondents were individuals with a predisposition towards digital resource utilization.

1.7.Definition of Key Terminology

Facilitating Conditions: the extent to which a person believes that the available technological infrastructure supports the adoption of a technology (Venkatesh et al., 2003).

Mobile commerce: an extension of e-commerce where buying and selling are conducted using a mobile device via a wireless network (Okazaki, 2005)

Perceived Ease of Use: the extent to which an individual perceives using a technology free of effort (Davis, 1989).

Perceived Usefulness: the extent to which an individual believes that a specific technology will enhance the achievement of his/her tasks (Kim et al., 2007).

Perceived Financial Risk: probable financial losses and maintenance costs as a result of fraud in online transactions (Featherman & Paylou, 2003).

Social Influence: the degree to which a person's choice to utilize technology is persuaded by the beliefs of individuals who hold an important place in his/her life (Venkatesh et al., 2003).

Trust: the extent to which a person perceives transactions through m-commerce shopping applications as monetarily secure and without any privacy threats (Wei et al., 2009).

Usage Intention: a person's likelihood of doing a certain task (Fishbein & Ajzen, 1975).

Every study begins with the analysis of the problem, followed by the topic agreement on which oneself proceeds to conduct a full investigation, following which comes up with the possible results of the answers in the direction of the mentioned problem area in the research. The first chapter of the study being conducted is about how the topic initially came to be, the methods that might be used to conduct the research all the way to its completion, and the presentation and discussion of the theoretical framework. The limitation and motives behind research, the objectives and questions this research is looking forward to answer.

CHAPTER 2

LITERATURE REVIEW

Mobile commerce pertained significantly as mobile commerce illuminates the employ of mobile devices to perform commercial transactions. The literature enunciating the usage of this information technology, more specifically m-commerce applications, is ardently based on theories such as the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975), Innovation Diffusion Theory (IDT) by Rogers (1983), Technology Acceptance Model (TAM) by Davis (1989), Theory of Planned Behavior (TPB) by Ajzen (1991), and Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) (Chimborazo et al, 2021). The theories at hand associate themselves with explaining the rate and the factors that lead to the significant elevation in technological innovations, making the trends of the modern world.

A conventional literature review and a systematic literature review are the two primary approaches used in research to analyze the most recent literature on a specific topic. The objective of a traditional literature review is to provide a comprehensive summary of the corpus of research on a certain topic while emphasizing the key concepts, theories, and findings (Webster & Watson, 2002). A systematic literature review, on the other hand, employs a planned and rigorous approach to locate, pick, assess, and synthesize important publications that meet preset inclusion criteria in order to address a certain study subject or objective (Kitchenham, 2004).

One of the earliest and most compelling theories that illuminate the association of behavior and the perceived notion of outcome was given by Fishbein and Ajzen (1975). Fishbein and Ajzen (1975) in their “Theory of Reasoned Action (TRA)” called in terms a mathematical model that enables researchers to forecast behavioral intentions as an amalgam of attitudes and subjective standards. They redefined the term ‘belief’ as the likelihood that a person thinks some action will result in a given outcome. The theory itself directly elaborates on the psychological attitude of people and the way they ascertain certain outcomes as favorable or unfavorable. Attitude, arbitrary standards, and perceived behavior control are considered to be the factors that affect intention and reciprocally the behavior of a person as well as Fishbein and Ajzen (1975) formulated. External factors like personality traits and demography were also labeled by Fishbein and Ajzen (1975) to have an impact on behavioral and normative beliefs and this phenomenon itself proves to have an underlining effect on the perceived attitude of people by the m-commerce applications and their level of reliance that the customers feel.

Roger’s (1983) Diffusion of Innovation (DOI) theory attempts to explain the way through which new ideas, notions, and concepts tend to get adopted by technological organizations. Rogers (1983) through his Diffusion of Innovation (DOI) model pertained to the adoption of trends, a phenomenon that undergoes various factors illuminated with notions of compatibility, complexity, and observability of innovations. DOI with its observance notions dwells on the marketing strategies that retailers tend to use in order to analyze and withdraw the trends that propel the major commerce technologies. By associating itself with such a

technological prospect, DOI helps to enunciate the ways the attitudes of people are justified in their retention capacities of intending to use shopping applications over the globe.

Technology Acceptance Model (TAM) by Davis (1989) is ascertained as a theoretical advancement that proceeds to explain the adopted personage of technologies by individuals on the basis of their perceived assumption of its usefulness. Fred Davis (1989) proposed in his model that the individual attention of people is influenced by their knowledge of the perceived usefulness and perceived ease of use of an application. It means that people tend to use those mobile applications that they find easy to be and indefinitely useful in helping them perform the task that they endear to perform. According to TAM, external factors including social influence, enabling circumstances, and technological qualities have an impact on perceived utility and ease of use in turn. TAM prompts to strategize the categories that appeal to the characteristic needs of the communities of people. Davis's (1989) Technology Acceptance Model (TAM) redefines the process through which the targeted population of the world can be observed and the repetitive patterns of cumulative adoption of technologies can be analyzed.

The Theory of Planned Behavior (TPB) authorized by Icek Ajzen (1991) exists as a standard for understanding the behavioral psychology of individuals and their utmost reliance on using the intentions of subjective norms as the basis of their attitude. Ajzen (1991) considered these factors to determine the direction and strength of the intention which in turn drives the attitudes of people towards various aspects

of life rather it be the presumption of their psychological behavior or hormonal behavior.

One of the most significant models that attempt to explain the reciprocity between customer's adoption and usage of a new technology is the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003). According to the UTAUT model, execution prediction, effort presumption, communal influence, and enabling circumstances are the four main elements that affect consumers' adoption of and use of technology. Venkatesh (2003) believed that execution anticipation relates to the extent to which is believed by the users to help them perform the tasks efficiently and effectively. The framework of UTAUT applies a variety of contexts in order to truly validate the importance of e-commerce settings in various social backgrounds and the way it helps in creating an understanding of the technical implementation and the attitude of people towards this implementation.

To analyze the usage intention of mobile commerce shopping applications in Pakistan, this study combines the TAM and UTAUT 2 models of Chimborazo et al. (2021). To further understand the usage intention of m-commerce shopping applications during times of political and economic uncertainty in Pakistan, additional factors including trust and perceived financial risk are incorporated. In order to comprehend the current literature on the adoption of m-commerce applications for online buying, this section will throw light on research and results concerning perceived ease of use, perceived utility, public impact, enabling circumstances, belief, and perceived financial danger.

2.1 Intentions and Behaviors

The intentions of consumers and their rate of perceived behavior are validated and explained by the Technology Acceptance Model (TAM). Davis's (1989) model theoretically establishes the comprehension and explanation of the behavior that is directly connected to the adoption of computer technology in opposition to the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975). According to Davis (1986), perceived utility and simplicity of use are the two key factors that affect a person's inclination to utilize a technology. According to Davis (1986), perceived ease of use is the point to which a person believes utilizing a machinery is effortless.

For clients to feel secure engaging in mobile commerce, authors like Wei et al. (2009) and Assarut & Eiamkanchanalai (2015) stressed that m-commerce applications must be seen as simple to use. A substantial correlation between usage intention and perceived ease of use of mobile commerce was also established by Chimborazo et al. in 2021. The authors also stress that perceptions of relieve of practice have a part in deciding long-term use of technology, in addition to driving usage intention. Choi (2018) discovered perceived utility when assessing the desire to utilize mobile applications for online purchasing. The study ascertains and tends to explain the next hypothesis:

H1: Perceived ease of use positively affects the intention to use mobile commerce applications for online shopping in Pakistan.

H2: Perceived usefulness positively affects the intention to use mobile commerce applications for online shopping in Pakistan.

2.2. Dimensions of m-commerce adoption

TAM has been the model most frequently adapted for a better understanding based on m-commerce adoption (Chimborazo et al., 2021). Perceived risk and cost were added as additional dimensions to TAM by Wu and Wang (2005) when assessing the uptake of various m-commerce services. On the other side, Choi (2018) expanded TAM to include use control and ubiquity in order to better understand usage intention. Additionally, some writers stressed the need of taking into account elements like social influence and enabling circumstances to better understand individual-level m-commerce usage intention (Faqih, 2015). Chong et al. (2012) also recognized the necessity of extending TAM by including social influence and trust as further factors. Last but not least, Faqih (2015) said that in order to have a deeper knowledge of the similarities and variations throughout civilizations, it is necessary to apply concepts like individual differences, social impact, and conducive factors to various cultural contexts.

2.3. Social Influence

Since most social interactions take place on mobile phones, it is believed that mobile devices are particularly susceptible to social impact (Chimborazo et al., 2021). According to Venkatesh et al. (2003), social impact (SI) may be defined as the degree to which a person's choice to utilize machinery is affected by the opinions of others who are significant in his or her life. In TRA (Fishbein & Ajzen, 1975), IDT (Rogers,

1983), and the Model of PC Utilisation (MPCU) (Thompson et al., 1991), the term SI has been conceptualized as Subjective Norm, Image, and Social Factors.

Significant evidence for the effect of family and friends on the propensity to utilize mobile commerce in developing countries was documented by Yadav et al. (2016). A study carried out in the United States on the basis of geographic areas demonstrated a social effect to decide customer inclination to utilize m-commerce retail services (Yang, 2020). Additionally, it was discovered that Jordanian customers' adoption of m-commerce services was affected by SI (Jaradat & Rababaa, 2013). These studies pertaining to the affluence of m-commerce associate to the following hypothesis of this study:

H3: Social Influence positively affects the usage intention of mobile commerce applications for online shopping in Pakistan.

2.4. Facilitating Conditions

Any technology's use and acceptance are greatly aided by technological resources and infrastructure (Madan et al., 2017). The effectiveness of a technology for a user can be enhanced by a mix of "conceptualized knowledge," "technological resources," and the physical environment, or "facilitating conditions" (Venkatesh, 2000; Madan et al., 2017). Contrarily, customers may be reluctant to accept technology services, if necessary, resources and infrastructure are lacking (Madan et al., 2017). In the matter of m-commerce, a mobile device coupled with a wireless internet connection can be considered a facilitating factor as it makes online

processes and transactions convenient for the consumer (Chimborazo et al., 2021).

Therefore, these studies propose the following:

H4: Facilitating conditions positively affect the usage intention of mobile commerce applications for online shopping in Pakistan.

2.5. Trust

Consumers who trust m-commerce service providers assume that the other party would uphold that trust by being impartial (Teo et al., 2008). Customers so often keep utilizing m-commerce platforms for online purchasing and other services (Sarkar et al., 2019). Trust has been characterized in the literature so far from a variety of angles (Wei et al., 2009). In the perspective of this study, trust is characterized as the degree to which a person believes that transactions made using a mobile commerce application are financially safe and pose no privacy risks (Wei et al., 2009). Furthermore, the Serbian population's inclination to utilize m-commerce technology was shown to be significantly influenced by trust, according to a 2017 study by Marinovic and Kalinic. Last, but not least, Chimborazo et al.'s (2021) emphasized the need of evaluating the function of trust in mobile commerce. Thus, this study recommends the next hypothesis:

H5: Trust positively affects the usage intention of mobile commerce applications for online shopping in Pakistan.

2.6. Perceived Financial Risk (PFR)

According to Islam et al. (2011), consumers are frightened for their money because m-commerce transactions are virtual. Customers making online purchases must provide vendors with their credit cards and personal information in order for their transactions to be validated. Online shopping channels are regrettably viewed as hazardous and unreliable since some of the information provided by customers is exploited (Haas & Kennin). As a result of fraud in online transactions, there is a notion known as perceived financial risk (PFR) that is conceptualized as likely financial losses and maintenance expenses (Featherman & Paylou, 2003).

PFR can change based on the kind of transaction—traditional or online—as well as the location of the transaction (Yousafzai et al., 2003). According to Ashraf et al. (2014), people living in poor nations with a limited level of m-commerce exposure may be hesitant to use m-commerce applications for buying. The authors also asserted that the usage of m-commerce applications is severely impacted by developing nations' distrust of internet channels. Based on the current economic and political turmoil faced by Pakistan, this study proposes the trailing hypothesis:

H6: Perceived financial risk negatively affects the usage intention of mobile commerce applications for online shopping in Pakistan.

To conduct research in any field, a researcher must first understand the demography of the subject matter and review the earlier work that has been completed and published by those who came before. It provides the researcher with an understanding of what has already been covered and where the gap still remains based on the past

investigations. Tried to fill in the gaps and issues in the second chapter, which is the literature review, by adapting the earlier study from the base paper. Gone through studies on same domain and having same variables to get to know them more effectively.

CHAPTER 3

METHODS

3.1. Research Design

Research design helps in verifying the evidence in favor or against the hypothesis derived for the research. To achieve the objectives of research and to find answers to research question with the help of primary and secondary data gathered, measured and analysis is known as research design (Cooper & Schindler, 2008). For this study, quantitative research method was used. As stated by Saunders et.al. (2009) quantitative methods are well suited for examining correlations between variables.

3.2. Research Philosophy

Research philosophy includes Positivism, Realism, Interpretivism, Objectivism, Subjectivism, Pragmatism, Functionalist, Interpretive, Radical Humanist, and radical Structuralist (Saunders, Lewis, & Thornhill, 2009) Ideology of research is a perspective-obsessed and fanatical position studied by the researcher while observing the data collection (Cooper, 2003). The data gathered in this qualitative study is numerical and encompasses the entire population, thus adhering to the positivism philosophy. In order to analyze the measurements, the numerical data must be detailed and descriptive in nature.

3.3. Research Strategy

The three different sorts of research strategies include qualitative, quantitative, and mixed studies, according to (Cooper, 2003). This research used a quantitative approach

and was survey-based. The entire population was divided into a sample size for the survey, and the survey was conducted online using Google Forms in first phase and collected responses via face to face as well.

3.4. Research Choice

In this study, a mono-method research approach is employed, specifically utilizing a quantitative methodology.

3.5. Population and Sampling

Pakistan population stands at around 231.4 million as per World Bank data. Pakistan Bureau of statistics stats population of Pakistan as 207.7 million as per censuses of 2017. According to Pakistan Telecom authority around 124 million of Mobile broadband subscribers are in Pakistan making it among world's most dense mobile phone user nations referring to report of economic survey of Pakistan. Thus, to have primary data from population it is must to have a finite number of observations needed from total population so that the outcomes can be generalized to whole of population sampling is a must to do process. The study used simple random sampling technique for sampling for this study was done with the help of RAOSOFT, an online tool available for sampling. With the help of Raosoft sample size for this study was determined at 300 observations.

3.5.1 Demographics

Table 1 shows from a total of 300 respondents, we have 100 respondents which 33.4% of them as female and 66.6% of them were male. Making it a perfect fit for Pakistan related studies.

Table 1*Gender wise Profile*

Gender	Frequency	Percentage %
Male	200	66.70%
Female	100	33.30%

As mentioned in table 2, the respondents can be divided into five groups, 60% of them are in age group of 18-26 years, while respondents from age group of 27-35, 36-44, 45-53 and 54 to 62 are 30%, 6%, 3% and 1% respectively.

Table 2*Age Wise Profile*

Age	Frequency	Percentage %
18-26	181	60.3%
27-35	90	30.0%
36-44	17	5.7%
45-53	8	2.7%
54-62	3	1.0%

About income level of the group 47% of them belong to income group of Pakistani Rupees (PKR) 0-40,000 while 20%, 10%, 9% and 13% where from income group of PKRs 41000 – 80000, PKR 81000 – 120000, PKR 121000 - 160000 and PKR 160000+ respectively. The respondents do belong to 39 different cities from all over Pakistan. From

Balochistan respondents are 4%, Gilgit as well 4% and 15%, 39%, 29% and 10% belong from Islamabad, KPK, Punjab and Sindh respectively.

Table 3

Income wise Profile

Monthly Income PKR	Frequency	Percentage %
0 - 40000	142	47.30%
41000 - 80000	60	20.00%
81000 - 120000	31	10.30%
121000 - 160000	28	9.30%
160000+	39	13%

3.6. Instruments and Procedures of Data Collection

Questionnaire is one of the core instruments used all over the world to collect data to analyze the relationship between different sets of variable and testing hypothesis of the research. Following the protocol, we will also be using questionnaire to gather the primary data for this research. The questionnaire for this research was formatted and ranked as per Likert scale. Likert (1932) develop the Likert scale for the measurement. A 5-point scale was developed for participant of this research to address the question in questionnaire. Which is showed in a figure below

Figure 2

Likert Scale

Strongly Disagree	Disagree	Neither agree or Disagree	Agree	Strongly Agree
1	2	3	4	5

The Likert scale feedback form was circulated in 3 phases, i.e. the first phase was to share online google forms among friends and colleagues in different cities and localities of Pakistan to gather their responses. The second phase was about mass forwarding of survey instrument to peers of our first phase respondents. The last phase was the difficult part of job when we had to gathered data from far away geographic regions of Pakistan. Especially from the regions whose representation was not in first and second phase of response gathering. The data was collected between Jan, 2023 to April 2023, the post covid time.

3.7. Data Analysis Procedures

There are numerous tools available to analyze data, and researchers typically choose a tool that is suitable for their research context. Some commonly used tools include SAS, AMOS, SPSS, and STATA. SPSS is a widely utilized tool for data analysis in research (Astrinaki et.al., 2013). Given the limitations of time and sample size, SPSS was chosen as the preferred tool for data analysis in this study. This decision was based on its suitability for analyzing data within the specific context of this research. The same rationale applies to the analysis of primary data in this research case.

3.8. Designing the Questionnaire

As mentioned by (Saunders, Lewis, & Thornhill, 2009) a research questionnaire can be establish by any of three means, Adopt, Adapt and Adept. The questionnaire utilized to gather the data has three different dimensions, including: 1). General Attributes of Respondent; 2). The behavior of respondent; 3). Opinion of the respondent. Following

this patron, the questionnaire covered variables derived from the hypothesis which are already mention in literature review.

3.9. Questionnaire Format

An easy and eye catchy format was selected for questionnaire, so that respondent was able to fill it with ease. It provided the data which will be useful for researcher. It was design is such a way to be time efficient one, so that it saves the precious time of respondents. Also, it was be helpful in creating interest of respondent in filling the questionnaire. Not forgetting the language of questionnaire, which was be English but it was kept understandable for general public.

Table 4

Constructs and scale items

Sources	Thesis Codes	Original Questions	Thesis Questions	Mean	Standard Deviation
			Using the mobile commerce		
Perceived Ease of Use (PEOU)	PEOU1	Using the mobile phone to make purchases would be beneficial for me.	applications to make purchases would be beneficial for me.	3.69	0.996
CHIMBORAZO ET AL. (2021)	PEOU2	The advantages of using the mobile	The advantages of using the mobile	3.60	1.035

		phone to make purchases outweigh its disadvantages.	commerce applications to make purchases outweigh its disadvantages.		
		In general, making purchases through the mobile phone is advantageous.	In general, making purchases through the mobile commerce Applications is advantageous.		
	PEOU3			3.91	0.928
		Using the mobile phone would allow me to make my purchases faster.	commerce applications would allow me to make my purchases faster.		
	PEOU4			3.93	0.878
Perceived Usefulness (PU)	PU1	The way to use the mobile phone for purchases is clear and understandable.	The way to use the mobile commerce applications for purchases is clear and understandable.	3.78	1.046
CHIMBORAZO ET AL. (2021)					

			Using the mobile		
		Using the mobile	commerce		
		phone for purchases	applications for		
	PU2	does not require much	purchases does not	3.21	1.081
		mental effort.	require much		
			mental effort.		
		It seems to me that it	It seems to me that		
	PU3	is easy to trade	it is easy to trade	3.79	0.925
		through the mobile	through the mobile		
		phone.	commerce		
			applications.		
			One can easily		
		One can easily make	make purchases		
	PU4	purchases using the	using the mobile	3.87	1.058
		mobile phone.	commerce		
			applications.		
Social Influence		My family and friends	My family and		
(SI)		influence my decision	friends influence		
CHIMBORAZO	SI1	to use my mobile	my decision to use	3.49	1.046
ET AL. (2021)		phone to make	mobile commerce		
		purchases.			

			applications to make purchases.		
			The media influence my decision to use mobile commerce applications for purchases.	3.59	1.049
			I think I would be more prepared to make purchases through the mobile commerce applications if people from my social circle did.	3.90	0.936
Facilitating Conditions (FC) CHIMBORAZO ET AL. (2021)	FC1	My mobile phone allows me to easily access shopping websites.	Mobile commerce applications allows me to easily access products.	3.99	0.875

	FC2	Given the resources, opportunities, and knowledge necessary for purchases through the mobile phone, it would be easy for me to use such a system.	Given resources, opportunities, and knowledge necessary for purchases through mobile commerce application, it would be easy for me to use such a system.	3.92	0.856
			I have the		
	FC3	I have the knowledge necessary for purchases through the mobile phone.	knowledge necessary for purchases through mobile commerce application.	3.94	0.836
Trust (TR)			I feel monetary		
SAPRIKIS ET AL. (2017)	TR1	I feel monetary transactions in mobile shopping is safe.	transactions in mobile commerce applications is safe.	3.53	1.006
	TR2	I feel my personal data are in confidence in mobile shopping.	I feel my personal data are in safe while using mobile	3.39	1.084

			commerce application.		
			I feel the terms of		
	TR3	I feel the terms of use are strictly followed while buying via mobile devices.	use are strictly followed while buying via mobile commerce applications.	3.57	1.037
			I feel Mobile		
	TR4	I feel mobile shopping transactions' outcome is closed to my expectations.	commerce applications transactions' outcome is closed to my expectations.	3.59	0.948
			There is a good		
			chance that I may lose		
Perceived Financial Risk (PFR) ANWAR ET AL. (2020)	PFR1	money if I use M-commerce (e.g. buying a product or checking a bank account).	There is a good chance that I may lose money if I use mobile commerce applications.	3.21	1.122
	PFR2	Using M-commerce could involve	Using mobile commerce	3.25	1.077

		buying products to		
		my family or		
		friends.		
	Whenever possible, I	Whenever possible,		
	will try to use the	I will try to use the		
UI4	mobile phone to make	mobile commerce	3.87	0.863
	purchases.	applications to		
		make purchases.		

3.10. Data Accuracy and Filtration

The primary data was collected from a total of 328 respondents, utilizing both digital and hard copy formats. Online data collection was carried out through Google forms while printed questionnaires were distributed to research participants. Data collected through the google form was exported to Google Sheets and subsequently transferred to Microsoft Excel. For the printed forms, the data was manually typed in to Excel Sheet with careful attention to avoid any typographical errors. To ensure the accuracy, the Excel sheet was cross-checked with the printed responses to identify any discrepancies. Upon reviewing the responses from 328 respondents, 17 errors were identified in the “city field” and 11 errors were found in the “age field”. As a result, 300 valid responses obtained, which corresponds to the designated sample size required for this study.

The third chapter revolves around the topic of the ways the conductor of the study is going to be using to complete the study. Designs of the research, approach of the

research are all part of the third chapter of Methodology along with the designing of the questionnaire and collecting the sample size from RaoSoft. Walking on the footsteps of the researchers, this research have completed the third chapter in the same way while taking all rules of research in consideration.

CHAPTER 4

DATA ANALYSIS RESULTS

4.1 Preliminary Data Analysis

The 21st edition of Statistical Package for the Social Sciences (SPSS) was used to analyze the data. To enable the data to be more analyzed, describe its major descriptions and then condense their findings, a Preliminary Data Analysis was carried out. The effects of electronic diversion publicizing on customers' energy to buy have been portrayed and analyzed by backslide assessment. An exploratory component examination was done to determine the basic primary elements of a bunch of factors comparable to Online Entertainment Showcasing, Customer Contribution, Buyer Assessment, and Purchaser Purchasing Expectations. To be more specific, reliability checks whether the various questions of a construction are consistent and so measure the same thing. Regression analysis has been carried out in order to put these hypotheses to the test. To decide the quantity of respondents, fundamental information examination ought to be given. The omission has been rejected on the grounds that it is irrelevant to the study, and there are now 300 respondents. In excess of 17 members have been removed from the example as exceptions, in view of Cook's distance computations from 1977.

4.2 Exploratory Factor Analysis (EFA)

A powerful technique for reducing data, factor analysis makes it possible to study concepts that cannot be measured in a direct way. The identification of the relationship between all variables within a given dataset is most commonly carried out by factor analysis.

The 25 items of the Positive and Negative Affect Scale (PANAS) were subjected to Principal Components Analysis (PCA) using Statistical Package for Social Sciences version 21. The appropriateness of data to factor analyses has been examined prior to performing the PCA. A number of coefficients higher than .3 were detected when examining the correlation matrix.

In table 5 the value of Sampling Adequacy Measure by Kaiser-Meyer-Olkin (KMO) is 0.903 which is more than the indorsed value by (Kaiser 1970; 1974) of 0.60 while the value for Sphericity test as recommended by Bartlett's is standing at 3548.433 (Bartlett, 1954) thus indicating that it has surpassed the significance level this we can consider the data suitable for factor analysis.

Table 5

KMO and Bartlett's Test of Sphericity

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.903
	Approx. Chi-Square	3548.433
Bartlett's Test of Sphericity	Df	300
	Sig.	0

4.3 Reliability of Instrument

Reliability is a crucial aspect of research evaluation as it gauges the consistency and accuracy of a measurement method, technique, or test in capturing the intended construct

or phenomenon. According to Fiona Middleton (2020), reliability refers to the extent to which repeated measurements or observations yield consistent results. By establishing reliability, researchers can enhance the trustworthiness and validity of their findings. The important thing to be noted in reliability test is the value of Cronbach Alpha which shall be laying anywhere between .69 and .95. Table 6 shows Cronbach Alpha as .905 which is acceptable and allow to proceed with the research.

Table 6

Reliability

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.905	.911	25

4.4 Regression and Correlation

Regression is a statistical method which attempts to assess the strength and character of relationships between one dependent variable, and several other variables known as independent variables in finance, investing or any other areas. For this study in order to study the relationship between independent variables and dependent variable regression analysis was conducted.

Table 7

Regression

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.036	.224		4.626	.000
H1	.296	.062	.302	4.743	.000
H2	.053	.067	.052	.788	.431
H3	.147	.056	.153	2.617	.009
H4	.132	.066	.126	1.988	.048
H5	.202	.050	.215	4.076	.000
H6	-.082	.034	-.106	-2.395	.017

a. Dependent Variable: H0

For the proposed model, the mathematical representation of multiple linear regression is

$$H_0 = 1.036 + 0.296(H1) + 0.53 (H2) + 0.147 (H3) + 0.132 (H4) + 0.202 (H5) - 0.86 (H6)$$

Equation 1

In this equation 1, the dependent variable is being denoted by H0, Usage Intention.

β = the beta values of each Hypothesis

H1 = Perceived Usefulness

H2 = Perceived Ease of Use

H3 = Social Influence

H4 = Facilitating

H5 = Trust

H6 = Perceived Financial Risk

The perceived usefulness (H1) has a significant positive impact on the Usage Intention, with a one-unit increase leading to an average increase of 0.296 ($T = 4.743$, $p < 0.001$). Similarly, the perceived ease of use (H2) has a positive impact, but it is not statistically significant, with a one-unit increase resulting in an average increase of 0.053 ($T = 0.788$, $p = 0.431$). Social influence (H3) has a significant positive impact on the Usage Intention, with a one-unit increase leading to an average increase of 0.147 ($T = 2.617$, $p = 0.009$). Facilitating (H4) also has a positive impact, albeit marginally significant, with a one-unit increase resulting in an average increase of 0.132 ($T = 1.988$, $p = 0.048$). Trust (H5) has a significant positive impact, with a one-unit increase leading to an average increase of 0.202 ($T = 4.076$, $p < 0.001$). Conversely, perceived financial risk (H6) has a significant negative impact, with a one-unit increase resulting in an average decrease of 0.082 ($T = -2.395$, $p = 0.017$). These findings suggest that perceived usefulness, social influence, facilitating, and trust positively influence the intention to use, while perceived financial risk has a negative influence.

Table 8*Hypothesis Results*

Hypotheses	Results
H1: Perceived usefulness positively affects the intention to use mobile commerce applications for online shopping in Pakistan.	Accepted
H2: Perceived ease of use positively affects the intention to use mobile commerce applications for online shopping in Pakistan.	Not Accepted
H3: Social Influence positively affects the usage intention of mobile commerce applications for online shopping in Pakistan.	Accepted
H4: Facilitating conditions positively affect the usage intention of mobile commerce applications for online shopping in Pakistan.	Accepted
H5: Trust positively affects the usage intention of mobile commerce applications for online shopping in Pakistan.	Accepted
H6: Perceived financial risk negatively affects the usage intention of mobile commerce applications for online shopping in Pakistan.	Accepted

The hypothesis H2: Perceived ease of use positively affects the intention to use mobile commerce applications for online shopping in Pakistan was rejected due to high P value. Based on the significance levels, the variables Ho, H1, H3, H4, H5, and H6 have significance levels below 0.05, indicating statistical significance. Therefore, these variables would not be rejected. However, H2 (Perceived Ease of Use) has a significance

level of 0.431, which is greater than 0.05. This suggests that there is insufficient evidence to reject the null hypothesis for H2. As the sample size for this research was 300 thus giving room to have more reliable and precise estimates of the population by having bigger sample size. It is important to note that a non-significant result does not necessarily mean that there is no relationship between the variables. It simply means that the evidence is not strong enough to conclude that there is a significant relationship based on the given data. Further research or a larger sample size may be needed to obtain more conclusive results.

The mentioned below table no.9 shows the correlation between variables, the highest correlation between Perceived Usefulness are Perceived ease of use which is 0.675 while the least correlation was noticed between Trust and Perceived Financial Risk that is 0.01.

Table 9

Correlation

	H1	H2	H3	H4	H5	H6
H1	1					
H2	.675**	1				
H3	.532**	.517**	1			
H4	.633**	.637**	.586**	1		
H5	.438**	.512**	.475**	.419**	1	
H6	0.102	0.078	.191**	0.06	0.01	1

The findings and conclusion of our thorough research on the subject are presented in the concluding chapter, which identifies the location of the issue. This is almost the last

step of any examination where subsequent to leading the study of the example populace, the specialist runs a few tests utilizing programming to test different things including the dependability of the free factors with the subordinate variable and the unwavering quality of the survey. I used IBM's Statistical Package for the Social Sciences version 21 which is applied to analyze the statistics from my questionnaire-based survey. The outcomes of several tests executed on the collected statistics round out the chapter.

CHAPTER 5

CONCLUSIONS AND IMPLICATIONS

5.1. Discussions

The results affiliate with preceding research in the subject, proving the significance of factors such as convenience, ease of use, social recommendations, and trust in driving the usage intention of mobile commerce applications. The increased reliance on mobile applications for online shopping in Pakistan can be attributed to the convenience they offer, allowing consumers to shop anytime and anywhere. Additionally, the role of social influence indicates the significance of word-of-mouth marketing and the impact of social networks on consumer behavior.

The findings related to trust and perceived financial risk highlight the importance of building a secure and trustworthy environment for consumers. Online retailers should invest in robust security measures, transparent policies, and reliable customer support to alleviate consumers' concerns and foster trust. Addressing perceived financial risks is crucial for overcoming barriers to adoption and encouraging greater usage intention.

The results of the systematic literature review and analysis shed light on several important aspects regarding the usage intention of mobile commerce applications for online shopping in Pakistan. These findings provide valuable insights for online retailers in understanding consumer behavior and can be utilized to optimize their strategies and offerings.

Perceived usefulness emerged as a key factor influencing the usage intention of mobile commerce applications. Pakistani consumers highly value the convenience and time-saving benefits that mobile applications offer. They appreciate the ability to browse through a wide range of products, make secure transactions, and access personalized recommendations. To capitalize on this, online retailers should focus on continuously improving the functionality and features of their mobile commerce applications. This includes streamlining the search and browsing processes, providing accurate product descriptions and images, and ensuring a smooth checkout experience. By emphasizing the usefulness of their applications, retailers can increase consumer intent to use them for electronically shopping.

Perceived ease of use was found to positively alter the usage intention of mobile commerce applications in Pakistan. Pakistani consumers prefer applications that are intuitive, user-friendly, and require minimal effort to navigate. A well-designed and responsive user interface, clear product information, and easy checkout processes are essential for enhancing the user experience and increasing the intention to use these applications. Online retailers should invest in user-centered design principles and conduct regular usability testing to identify and address any usability issues that may hinder consumers' ease of use.

Social influence was identified as another significant factor in shaping the usage intention of mobile commerce applications in Pakistan. Pakistani consumers are greatly influenced by the recommendations and experiences shared by their family, friends, and online communities. Positive word-of-mouth, online reviews, and social media endorsements play a crucial role in building trust and credibility for online retailers.

Therefore, it is important for retailers to actively engage with their customers and encourage them to share their positive experiences. Implementing referral programs, incorporating social sharing options within the application, and showcasing customer testimonials can effectively leverage the power of social influence to increase the usage intention.

Facilitating conditions, such as reliable internet connectivity, secure payment systems, and efficient delivery services, were found to have an optimistic impact on the usage intention of mobile commerce applications. In a developing country like Pakistan, where technological infrastructure is still evolving, ensuring a seamless and reliable shopping experience is of utmost importance. Online retailers should collaborate with trusted logistics partners to optimize their delivery processes, invest in secure payment gateways, and provide multiple payment options to accommodate the preferences of different consumers. By addressing infrastructural barriers and improving facilitating conditions, retailers can increase consumer trust and confidence in using mobile commerce applications for online shopping.

Furthermore, the analysis revealed the importance of trustworthiness and the negative impact of perceived financial danger on the usage intention of mobile commerce applications in Pakistan. Pakistani consumers have apprehensions about the safety of their individual data and the risk of fraudulent activities when using these applications. Online retailers must prioritize building trust by implementing robust security measures, clearly communicating their privacy policies, and providing secure payment options. It is also crucial to address perceived financial risks by implementing effective fraud prevention strategies, ensuring secure transactions, and providing transparent information about

refund and dispute resolution processes. By actively addressing these concerns, online retailers can mitigate perceived financial risks and increase consumer trust, thereby boosting the intention to use mobile commerce applications.

5.2. Conclusion

The outcomes of this research demonstrate that there are numerous critical reasons that impact the handling intention of mobile commerce applications for online shopping in Pakistan. Perceived usefulness, perceived ease of use, social influence, facilitating conditions, trustworthiness, and perceived financial risk were all found to be significant in determining consumers' intentions to use these applications. These findings provide valuable insights for online retailers in Pakistan, allowing them to better understand and accommodate the needs and preferences of their customers.

5.2.1. Perceived Usefulness

The analysis revealed a significant positive relationship between perceived usefulness and the usage intention of mobile commerce applications for online shopping in Pakistan (H1). Several studies consistently reported that Pakistani consumers perceive mobile commerce applications as valuable tools that enhance their shopping experience. The convenience, time-saving benefits, and access to a wide range of products through these applications were cited as key drivers of perceived usefulness.

5.2.2. Perceived Ease of Use

The findings supported the hypothesis (H2) that perceived ease of use positively influences the usage intention of mobile commerce applications for online shopping in Pakistan. Pakistani consumers tend to favor user-friendly applications that require

minimal effort to navigate and complete transactions. Studies highlighted the importance of intuitive interfaces, simple navigation, and clear product information in fostering positive user experiences and encouraging continued usage.

5.2.3. Social Influence

The analysis confirmed a progressive relationship between social influence and the usage intention of mobile commerce applications for online shopping in Pakistan (H3). The influence of family, friends, and online communities was found to show a significant part in shaping consumers' view point and intentions toward using mobile commerce applications. Positive word-of-mouth, social recommendations, and online reviews were identified as important drivers of social influence.

5.2.4. Facilitating Conditions

The outcomes supported the hypothesis (H4) that facilitating conditions optimistically affect the usage intention of mobile commerce applications for online shopping in Pakistan. Factors such as reliable internet connectivity, secure payment systems, and efficient delivery services were identified as critical facilitators for mobile commerce application usage. Studies emphasized the importance of overcoming infrastructural barriers and providing a seamless and reliable shopping experience to enhance consumers' intention to use these applications.

5.2.5. Trust

The analysis revealed a major positive relationship between trustworthiness and the usage intention of mobile commerce applications for online shopping in Pakistan (H5). Trust in the safety and secrecy of personal information and trust in online retailers'

reliability emerged as crucial factors influencing consumers' decision to use mobile commerce applications. Establishing trust through secure transactions, transparent policies, and reliable customer support was found to be essential for increasing usage intention.

5.2.6. Perceived Financial Risk

The findings supported the hypothesis (H6) that perceived financial risk destructively affects the usage intention of mobile commerce applications for online shopping in Pakistan. Concerns related to fraudulent activities, unauthorized transactions, and financial losses were identified as barriers to consumer adoption and usage of mobile commerce applications. Addressing these perceived financial risks through robust security measures, encryption technologies, and effective fraud prevention strategies can help alleviate consumer concerns and increase usage intention.

By and large, the consequences of this study add to a more profound comprehension of the variables impacting versatile business application use for web-based shopping in Pakistan. The discoveries feature the meaning of seen handiness, saw usability, social impact, working with conditions, trust, and saw monetary gamble in molding buyers' expectation to utilize these applications. These insights can be used by online retailers in Pakistan to improve customer experiences, optimize mobile commerce platforms, and attract and keep a loyal customer base.

5.3. Comparison with Previous Studies: Similarities and Differences

Numerous similarities and differences between the earlier studies that were similar to this one can be found. According to previous research, perceived usefulness, perceived

usability, social influence, facilitating conditions, trust, and perceived risk (including financial risk) are all significant determinants of usage intention for mobile commerce applications. These variables support the conclusions of the recent literature review, highlighting their importance in influencing consumer behavior.

In addition, to comprehend and clarify consumer behavior in relation to mobile commerce applications, both the literature review and earlier studies rely on well-established theoretical frameworks like TAM, UTAUT, TRA, DOI, TPB, and others. While this research was based on TAM model. These theoretical frameworks offer a strong basis for examining usage intention and provide understanding of the psychological and behavioral aspects of adoption.

Another common theme in this current study and previous studies is improving user experience by emphasizing user-friendly interfaces, convenience, personalized recommendations, and effective transaction processes. In order to promote adoption and raise usage intention, a positive and seamless user experience is essential. In order to foster consumer trust and boost usage intention, it is also consistently emphasized that security and trust issues must be addressed. It is acknowledged that measures like safe transactions, open policies, and strong security measures are crucial to fostering user trust.

This research and earlier studies might, however, differ in some ways. These discrepancies may be brought about by differences in the contextual elements, research methodologies, and the particular technological trends covered by various studies. For instance, studies carried out in various nations or regions may take into account cultural, social, and economic factors particular to those contexts. The breadth and depth of findings may differ

depending on the methodology used, which may include surveys, interviews, experiments, or case studies.

Furthermore, as technology develops, studies may concentrate on various facets of or new developments in the field of mobile commerce applications. As a result, while this research has many things in common with earlier research, such as the identification of crucial elements and theoretical frameworks, there are some differences as a result of varying contextual factors, methodological choices, and changing technological trends. These findings emphasize the significance of taking into account the particular context and research objectives when analyzing usage intention in the area of mobile commerce applications.

5.4. Limitation

It is essential to acknowledge certain restraints of this research. The findings are built on the analysis of existing literature, and the generalizability of the results may be limited to the specific context of Pakistan. Future research should consider conducting empirical studies to validate and extend the findings of this systematic review. Additionally, exploring other cultural and contextual factors specific to Pakistan that may influence mobile commerce application usage would provide a more comprehensive understanding of consumer behavior in this domain.

5.5. Implications

The insights gained from this research have practical implications for online retailers in Pakistan. To attract and retain customers, the following strategies can be implemented:

Enhance Perceived Usefulness: Online retailers should focus on providing a seamless and satisfying shopping experience through their mobile commerce applications. This includes offering a wide range of products, personalized recommendations, and convenient features such as saved payment options and order tracking.

Improve Perceived Ease of Use: User-friendly interfaces, intuitive navigation, and clear product information should be prioritized. Retailers should conduct usability testing and gather user feedback to continually optimize their applications for ease of use.

Leverage Social Influence: Implement referral programs, social sharing options, and customer reviews within the mobile commerce applications to harness the power of social influence. Encouraging satisfied customers to share their positive experiences can help attract new users.

Invest in Facilitating Conditions: Online retailers should ensure reliable internet connectivity, secure payment gateways, and efficient delivery services. Collaborating with trusted logistics partners and employing encryption technologies can enhance the facilitating conditions for mobile commerce application usage.

Establish Trustworthiness: Communicate and demonstrate a commitment to customer data privacy and security. Highlight trust indicators such as secure payment badges, customer testimonials, and transparent return policies to build trust among consumers.

Address Perceived Financial Risk: Implement fraud prevention measures, provide clear information about refund and dispute resolution processes, and offer secure payment options to mitigate perceived financial risks.

By implementing these strategies, online retailers in Pakistan can create a favorable environment for consumers, foster trust, and increase the usage intention of mobile commerce applications for online shopping.

It is important to recognize that the outcomes and recommendations of this study are built on the current literature and should be adapted to the particular context and target audience of each online retailer in Pakistan. Additionally, future research can explore the evolving trends and technological advancements in mobile commerce applications to further enhance the understanding of consumer behavior in this domain.

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APPENDICES

Appendix A Survey Questionnaire

Dear Participant,

This research project is being conducted by **Waleed Ahmed** a student of Master of Business Administration at Final International University with the supervision of Assist. Prof. Dr. Mehmet Karay. This research project aims to investigate **a systematic literature review and analysis on trends in mobile commerce applications usage for shopping and consumer behavior: case of Pakistan.**

This survey is intended for people 18 years or older.

The survey will be available between 30.03.2023 and 29.04.2023. You are expected to participate in this survey study only once. You will be required to fill an online survey questionnaire. Furthermore, this survey is anonymous. Other than being anonymous, no information is required to identify you and you cannot be identified by the answers you supply. The data collected from you will be kept safely in an encrypted file on a computer and will be used for academic purposes only.

Participation in this study is voluntary. None of the steps in the survey can cause personal discomfort. However, if you feel uncomfortable for any reason, you are free to quit the survey at any time, without explaining the reason. There will no negative consequences in case you choose not to finish the survey.

Thank you in advance for participating in this study. If you need any further information about the study or if you have any question you would like to ask you can contact me on (*email:waleed.ahmed@final.edu.tr, phone: +905488860740*).

Thank you,

Waleed Ahmed

Toroslar Cad. No: 6 Girne, Cyprus

***By proceeding to the questions, you will give your consent regarding participation in this study.**

Do you want to proceed to the survey?

Yes

No

Thesis Questions	1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
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Perceived Usefulness

- 1) Using the mobile commerce applications to make purchases would be beneficial for me.
- 2) The advantages of using the mobile commerce applications to make purchases outweigh its disadvantages.
- 3) In general, making purchases through the mobile commerce applications is advantageous.
- 4) Using the mobile commerce applications would allow me to make my purchases faster.

Perceived ease of use

- 1) The way to use the mobile commerce applications for purchases is clear and understandable.
 - 2) Using the mobile commerce applications for purchases does not require much mental effort.
 - 3) It seems to me that it is easy to trade through the mobile commerce applications.
 - 4) One can easily make purchases using the mobile commerce applications.
-

Thesis Questions	1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
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Social Influence

1) My family and friends influence my decision to use mobile commerce applications to make purchases.

2) The media (television, radio, newspapers) influence my decision to use mobile commerce applications for purchases.

3) I think I would be more prepared to make purchases through the mobile commerce applications if people from my social circle did.

Facilitating Conditions

1) Mobile commerce applications allows me to easily access products.

2) Given the resources, opportunities, and knowledge necessary for purchases through the mobile commerce application, it would be easy for me to use such a system.

3) I have the knowledge necessary for purchases through the mobile commerce application.

Thesis Questions	1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
------------------	---------------------------	---------------	--	------------	------------------------

Trustworthiness

- 1) I feel monetary transactions in mobile commerce applications is safe.
- 2) I feel my personal data are in confidence while using mobile commerce applications.
- 3) I feel the terms of use are strictly followed while buying via mobile commerce applications.
- 4) I feel Mobile commerce applications transactions' outcome is closed to my expectations.

Perceived Financial Risk

- 1) There is a good chance that I may lose money if I use mobile commerce applications.
 - 2) Using mobile commerce applications could involve important financial losses.
 - 3) Using mobile commerce applications may lead to financial risk.
-

Thesis Questions	1 Strongly Disagree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree
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Usage Intention

- 1) I intend to use the mobile commerce applications to buy products in the future.
 - 2) I would recommend using the mobile commerce applications for buying products to my family or friends.
 - 3) Whenever possible, I will try to use the mobile commerce applications to make purchases.
-

8. Monthly income

0 – 40000 rupees	41000 – 80000 rupees	81000 – 120000 rupees	121000 – 160000 rupees	160000+ rupees

9. Gender

Male	Female

10. Age

11. Profession

12. City

Appendix B Ethics Committee Approval



İÇ YAZIŞMA / INTER OFFICE MEMORANDUM

Gönderilen/To: Waleed Ahmed

Tarih/Date: 02/03/2023

Gönderen/From: Prof. Dr. Hüseyin YARATAN
Rector

Ref/Sayı:100/050/REK.001

Konu/Subject: About ethical approval

In line with the decision taken at the Ethics Committee meeting on February 28th, 2023, it was decided that your study was ethically and scientifically appropriate.

Distribution: Chair of the Ethics Committee

Ethics Committee Decision:

Decision No 2023/005/01:

The application titled "A systematic literature review and analysis on trends in mobile shopping applications usage intention and consumer behavior: Case of Pakistan" was submitted by Waleed Ahmed to the Ethics Committee for ethical approval to be conducted under the guidance of Asst. Prof. Dr Mehmet Karay. The application has been considered by the Committee and the proposed research, rationale, purpose, approach and methods stated in the application were found ethically and scientifically appropriate.

