CUSTOMER PERCEPTION TOWARDS THE DIGITAL PAYMENT

A THESIS SUBMITTED TO THE GRADUATE SCHOOL OF APPLIED SCIENCES

OF

NEAR EAST UNIVERSITY

By

SULIMAN A SALEM BEN GHRBEIA

In Partial Fulfillment of the Requirements for the Degree of Master of Science in Computer Information Systems

NICOSIA, 2020

CUSTOMER PERCEPTION TOWARDS THE DIGITAL PAYMENT

A THESIS SUBMITTED TO THE GRADUATE SCHOOL OF APPLIED SCIENCES

OF

NEAR EAST UNIVERSITY

By

SULIMAN A SALEM BEN GHRBEIA

In Partial Fulfillment of the Requirements for the Degree of Master of Science

in

Computer Information Systems

NICOSIA, 2020

Suliman A Salem Ben GHRBEIA: CUSTOMER PERCEPTION TOWARDS THE DIGITAL PAYMENT

Approval of Director of Graduate School of Applied Sciences

Prof. Dr. Nadire CAVUS

We certify this thesis is satisfactory for the award of the Degree of Masters of Science in Computer Information Systems

Examining Committee in Charge:

Prof.Dr. Nadire Çavuş	Committee Chairperson, Department of Computer Information Systems, NEU
Prof.Dr. Fezile Özdamlı	Supervisor, Department of Computer Information Systems, NEU
Assoc.Prof.Dr. Sezer Kanbul	Department of Computer Education and Instructional Technology, NEU

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name: SULIMAN A SALEM BEN GHRBEIA

Signature:

Date:

ACKNOWLEDGEMENTS

I would like in particular to thank the supervisor of my thesis Prof. Dr. Fezile Özdamli for maximum tolerance and critics towards the mammoth actualization of this research work. His influence indeed saturates each section of this dissertation. Extension of my warm appreciation goes to the head of department Prof. Dr. Nadire Cavus and to the academic staff of this viable academia for their quality teachings and outstanding approaches to students and staff alike.

Finally but definitely not the least, A huge thanks is also extended to my wonderful friends as well as colleagues, whom in one way or the other, issued me some treasured advice during the cause of conclusion of my thesis. To my ever ravishing and remarkable parents and my wife for their sincere and earnest prayers, support and provisions throughout my course of study.

To my parents...

ABSTRACT

The collective growth of Information Communication Technology has conveyed many accomplishments to mortal civilization, influencing the lives of people, behaviours and societal measures. The digital economy, electronic commerce and commerce and electronic banking are now being used by the new technologies and the wider global network, especially internet, within and outwardly. The study investigates issues that affect customers when implementing digital payment and also proposing solutions to preserve and develop the quality of service for digital payment systems so as to inspire patronage repetition and loyalty and attract new customers. Descriptive analysis, independent t-test and Analysis of Variance were the methodologies used for analysis of collected data. The results attained depicts that there was "strong correlation" existing between the benefits and the ease of use of the Digital Payment System. An almost moderate correlation existed only between the trust and customers' perception of the Digital Payment Systems alongside the true perception attained by customers while using the Digital Payment System and its basic ease of use. There was a rather weak negative correlation between the average security and the benefits of the Digital Payment System. Another quite weak and negative correlations has to do with the age bracket of the customers and its effect on the general preference of the Digital Payment System.This study can help providers gain an insight of the views and preferences of their customers in order to improve the customer perception during the online purchase procedures.

***Keywords*:** perception; digital payment systems; Libya; customers; online transactions; benefits

ÖZET

Bilgi İletişim Teknolojilerindeki kolektif büyüme, insanların yaşamlarını, davranışlarını ve toplumsal önlemleri etkileyen ölümlü medeniyete birçok başarı kazandırmıştır. Dijital ekonomi, elektronik ticaret ve elektronik bankacılık artık yeni teknolojileri, özellikle de internet kurum içerisinde ve dışa yönelik şekillerde olmak üzere, daha geniş küresel ağ içerisinde kullanmaktadır. Bu çalışma, dijital ödeme işlemlerini gerçekleştirirken müşterileri etkileyen faktörleri araştırmakta ve ayrıca dijital ödeme sistemlerine yönelik hizmet kalitesini korumak ve geliştirmek için hizmet alım tekrarlarına ve yeni müşteriler kazanma amacıyla öneriler vermeyi amaçlamaktadır. Toplanan verilerin analizi için betimsel analiz, bağımsız t-testi, ve Varyans Analizi kullanılmıştır. Elde edilen sonuçlar, Dijital Ödeme Sisteminin yararları ve kullanım kolaylığı arasında "güçlü bir korelasyon" olduğunu göstermektedir. Güven ve müşterilerin Dijital Ödeme Sistemleri algısı arasında Orta düzeyde ılımlı bir korelasyon ortaya çıkmakla birlikte, müşterilerin Dijital Ödeme Sistemini kullanırken ulaştıkları gerçek algı ve temel kullanım kolaylığı ortaya konmuştur. Ortalama güvenlik ile Dijital Ödeme Sisteminin faydaları arasında oldukça zayıf bir korelasyon vardır. Bir diğer oldukça zayıf ve korelasyon, müşterilerin yaş grubu ile bireyin Dijital Ödeme Sistemlerindeki genel tercihleri arasında bulunmuştur. Bu çalışma, çevrimiçi satın alma prosedürleri sırasında müşteri algısını iyileştirmek için, sağlayıcıların, müşterilerin görüşlerini ve tercihlerini anlamalarına yardımcı olabilecektir.

Anahtar Kelimeler: algı; Dijital Ödeme Sistemleri; Libya; müşteriler; çevrimiçi işlemler; faydalar

TABLE OF CONTENTS

CHAPTER 4: RESULTS AND DISCCUSIONS

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ANOVA:	Analysis of Variance
AOV:	Average Order Value
ATM:	Automated Teller Machine
BHIM:	Bharat Interface for Money
C2C:	Customer to Customer
CBL:	Central Bank of Libya
CC:	Correlation Coefficient
CLS:	container liner shipping
D2C:	Direct to Consumer
DPS:	Digital Payment System
DP:	Digital Payment
DV:	Dependent Variable
EDI:	Electronic Data Interchange
EFT:	Electronic Fund Transfer
EPS:	Electronic Payment System
GDP:	Gross Domestic Product
GSM:	Global System for Mobile
HDFC UPI:	Housing Development Finance Corporation
ICICI UPI:	Industrial Credit and Investment Corporation of India
ICT:	Information and Communication Technologies
IJBM:	International Journal of Biomedicine
IPO:	Items per Order
ITG:	Investment Technology Group
IV:	Independent Variable
LTT:	Libyan Telecom & Technology
MMID:	Mobile Monetary Identifier
MP:	Mobile Payment
MPS:	Mobile Payment Systems
MST:	Magnetic Secure Transmission
NFC:	Near Field Communication

OECD:	Organization for Economic Co-operation and Development
P2P:	Point-to-Point
POS:	Point of Sales
QR:	Quick Response
RE:	Recommender Engine
SBI:	State Bank of India
SBI UPI:	State Bank of India Unified Payment Interface
SEM:	Structural Equation Modelling
SME:	Small to Mid-size Enterprise
SMS:	Short Message Service
SPSS:	Statistical Packages for Social Sciences
UPI:	Unified Payment Interface
USA:	United States of America
USP:	Unique selling proposition
USSD:	Unstructured Supplementary Service Data
UTAUT:	Unified Theory of Acceptance and Use of Technology

CHAPTER 1
INTRODUCTION

In this section presentation of the topic of this research and detailed information that would enable the reader comprehend what the study basically entails is discussed.

1.1 Introduction

The increased development of ICT has brought many benefits to society and affected the lives, attitudes and social events of human beings. One of the most important developments in society's resilience is the ability to access a huge amount of information (Fathian et al., 2009). Intellectual and pragmatic boundaries were broken by the IT and provided a suited environment for growth, creativity and dynamic business in traditional societies. Without the use of information technology, business activities of all new and long-term careers and activities cannot be optimised. Many global initiatives (electronic commerce and electronic banking) have been underway to deal with this phenomenon (Afsharpour et al., 2013). New technologies and the wider global network–in particular the Internet, internal and external networks (Taghizadeh and Shafigh 2013)–are now being used in the digital economy, the online retail and finance and electronic banking sectors. A high level of e-commerce is one of the goals of all countries.

Pantea et al. (2018) examined consumer dynamic and experiential impact of smart technology. Increased consumer use of intelligent technology contributes to the recognition of their effect on practitioners ' purchasing experiences. Academic literature does not consider, however, the effect of the use of intelligent technology on the perceptions and perception of clients, together with the behavioural intentions of the company. Their research uses preliminary explanatory studies to investigate this phenomenon in a shop setting. The goal is, in every country, to achieve a high level of e-commerce. The method of e-commerce has led to the international growth of companies. The electronic business today is one of the common topics. In the long term, in the adoption of e-commerce platforms for business development, it is very important for an organization to control perception, trust and customer loyalty. Informational technology and internet advances are

rapidly growing and are widely regarded as a key driver of expanded use in the field of e-commerce services in particular in Libya. E-commerce also offers new possibilities for exporting goods and more generally providing services. In addition, e-commerce will enhance and increase an organization's productivity level (Kilan et al., 2017). Using Web software solutions to perform one or more of the functions of Internet-based e-commerce systems. These functions include the collection of information, communication, procurement and sales, distribution, customer service, the delivery and payment processing between suppliers, providers and their clients.

E-payment is therefore one of the main pillars of e-commerce without which e-payment is also considered to be e-payment. Therefore, payment systems are of great importance for enforcing successful monetary policies with monetary transactions and their impacts on economic and financial activities across the world. In fact, a key part of card payment systems is the payment system. In addition to encouraging the use of card acceptance, e-payment service providers also conduct several other practices including receiver acceptance responsibilities, routing requests for transaction approval and receipts and are considered another category of information services (Abili and Jafarnejad, 2014). Digital payment systems are thus considered to play the role of a stream of fluid exchange as the most important monetary infrastructure in the economies of the countries. Creating digital payment and settlement infrastructure permits significant amounts to be transferred over a short period of time between two or more financial institutions. That is, digital payment systems are becoming vital, especially when currency exchanges between two or more financial institutions are in order. Business and commercial transactions therefore require efficient and effective payment and selling infrastructure performance (Hakimi, 2010). For the past four decades since e-payment was introduced, major technological changes have, of the one part, broadened the e-payment system facilities and, of the other part, created social processes and enterprises which make it critical to use such systems (Hakimi, 2009). Digital payment systems are a key component of a country's economic and financial infrastructure. Their proper performance in safe and timely transfer of money has the most important impact on the economic system's overall performance.

1.2 Background of the Study

Every country's payment systems are an important part of its economy, as the channel through which financial resources flow (Tennyson, 2014). The advent and growth of the Internet and IT has led to substantial changes in the way money has been moved. Many countries are currently employing a combination of electronic payment systems and conventional payment systems, including cash, checks, electronic payments and online Internet transactions (Ifinedo, 2012; Gholami et al., 2010). The use of cash and checks to pay for goods and services is increasingly reliant on the Internet for individuals and companies. Different payment systems have been used by individuals to purchase products and services throughout history. Bartering was one of the first methods; people exchanged goods for other goods and services in exchange. Some of the common exchange products were cattle, sheep and vegetables. Shortly after, people began to pay for grain, shells, coins and gold (Rampton, 2016).

The charge card was introduced at the beginning of the 20th century. In 1983 also, it was first proposed the concept of digital cash (Rampton, 2016), which marked the start of the era of electronic payment. The first online purchase occurred about 10 years later. Payment methods have developed in order to respond to increased demand for convenience, and both customer and merchant payments met this demand in cashless terms (Dahlberg et al., 2015). Major innovations in cashless payments are credit and debit cards, online banking and bill payments. Recent applications for mobile payments and web payments have been launched (Rampton, 2016).

1.3 Statement of the Problem

While the first place they think is India when many people think about a cash crisis these days, not only is it such a crunch. Libya recently had one of its own, and mobile payments are being sought more and more as to reduce the country's spending cash shortfall. The cash crisis in Libya left people waiting for days to withdraw their savings from the banks, while some turned to mobile payments instead. Some found that waiting in line for cash at the bank was a nonsense and turned on these new steps, with grocery stores offering accommodations to such systems among other things. The growth of information and the

Internet is rapid and is generally seen to be a key driver in growing use of e-commerce goods throughout the world and Libya in particular.

With regard to entry, websites for e-commerce provide advantages that can support locals internationally. E-commerce also offers new manufacturing markets and broader range of services. Moreover, e-commerce can improve and increase an organization's level of efficiency. E-commerce can be used in the hotel industry to improve performance if consumer experience is met and consumers are ultimately true to the way they shop. The e-commerce website is one of the most relevant tactics today. Services are a main industry in the Libyan economy, accounting for about 50% of the Gross Domestic Product (GDP). He mentioned that men tend to use mobile technology more than their female counterparts. However, further research is needed because few of the research showing little or no gender impact in the implementation and acceptance of new technologies have been identified (Van Slyke et al., 2010; Hsbollah and Idris, 2009). Age is also seen as a significant variable in the research of consumers' perceptions of any fresh literature technology. In a research, it was discovered that innovating and technology adoption characteristics can be influenced by demographic factors such as age, education, gender, etc. (Porter and Donthu, 2006; Munnukka, 2007).

The same mobile technology research took place in the US (Dewan et al., 2009) and Finland (Laukkanen and Pasanen, 2008). In his study, Venkatesh et al. (2003) also examined the impact of age and education as a control variable and addressed the significance of age for customer perception and satisfaction of mobile technology. Laukkanen and Pasanen (2008) have found both age and gender as two main variables that affect customer perception of a technology. They showed that the consumer age has a beneficial effect on the perception of customers. New technological innovations have been applied to young customers who are knowledgeable and inclined to know and to use IJBM 950 35, 6 Downloaded by the Jaipuria Management Institute. Study was focused on the acceptance of mobile wallets and discovered young customers to be happier and more interested in mobile wallets.

Electronic commerce activities are fast developing, whose traditional way of trade has brought about a fundamental shift from passive previous consumers to active status, not

only through the Internet, to the quick product information needed, but can also easily turn any of the merchants into active information. Therefore, customer perception and loyalty to e-business is much more important than traditional enterprises in the Internet. The main problem for companies operating in electronic trade systems is customer perception. The main factor that will detect whether companies are going to survive or fail in future is that of the good customer service quality (Lui et al., 2015). This investigation aims at analysing and assessing customer perception in Libya using digital payments. Findings that could have an impact on the adoption of Digital Payment (DP) in Libya will also be examined in current research.

1.4 Digital Payment in Libya

As the country moves towards a cashless environment following demonetization, there is a flourishing number of concerns over initial panic and confusion. Digital payment is a way of paying by digital means. Payer and payee use digital methods for sending and receiving money in digital payments. It is also known as e-payment. Digital payments are not subject to hard cash. All digital payment transactions are finished online. The payments can be made immediately and easily. Withdrawal of cash from an account first before proceeding or referring to cash payments. Then proceed to pay in shops using this cash. The Shopkeeper then goes to the bank to deposit the cash being paid by the customer for the required goods. This process takes the time of the customer and that of the shopkeepers. However, money is transferred directly from the customer’s account on the digital payments to the customer's account. This is an automatic process and nobody needs these customers or the shopkeeper to visit the bank.

The electronic mobile payment service is one of Libya's leading national projects for financial inclusion in the development of the electronic payment market with state-of - the-art electronic payment solutions. In the context of Libya's cash crisis, which started in 2014, local banks lost faith and citizens had to queue for days before banks. Citizens lacked the money to pay daily for the necessities that resulted in a reduction in living quality. Any real economic reform has been prevented by the ongoing political crisis and continued instability. Initiatives for digital payments have become more popular and have

benefited from increased digital awareness, internet use and high mobile penetration among the people of Libya. Such estimates vary according to source, but the last estimates of Facebook users in Libya are estimated at 3.5 million. Most of them have mobile telephone connections. The Libyan Telecom company has launched in recent months Libyan Telecom and Technology (LTT) a new technology to make Internet connections more flexible and faster accessible. Since the beginning of the crisis, Libyan companies have sought to provide their customers with more innovative solutions. In the ongoing liquidity crisis, small companies and SMEs continued to sell their products as one of their main challenges. Start-ups such as Floos-E, a mobile wallet firm have built up some private solutions but have closed due to issues. Both the sender and the receiver needed Floos-E accounts that created a single challenge. The high transaction charge for the use of service and digital skills required to conduct the transaction was also a problem. However, some business owners who perceived physical cash as more valuable than digital money have still resisted. This misperception sometimes led to a 10-25% additional premium fee when paying by digital methods for the price of goods and services (Lui et al., 2015).

1.5 Aim of the Study

The aim is to establish reasons and incentives for consumers to use digital payments and to provide solutions to ensure that digital payment systems maintain and improve their quality of service in order to encourage repeat patronage and loyalty, and attract new customers in Libya using the following hypothesis.

- **H1:** Ease of Use has a positive effect on the Customers' perception.
- **H2:** Customers' perception has a positive effect on the Benefits the DPS.
- **H3:** Security of DPS has a positive effect on the Benefits the DPS.
- **H4:** Gender has a positive effect on the general preference of DPS.
- **H5:** Age has a positive effect on the general preference of DPS.
- **H6:** Benefits of DPS has a positive effect on Ease of use.
- **H7:** Trust of DPS has a positive effect on the Customers' perception.
- **H8:** Self-efficacy of DPS has a positive effect on the Benefits of DPS.
- **H9:** Trust of DPS has positive effect on Security of DPS.

- **H10:** Ease of use has positive effect on Self-efficacy of DPS.
- **H11:** Experience has positive effect on the general preference of DPS.

1.6 Significance of the study

As the e-commerce market expands and the Internet consumer population is increasing, there may be problems during online shopping processes that affect their impressions and attitudes towards e-commerce. The aim of the research is for customers to investigate their views on the quality, price, delivery and after-sales services of digital payments in Libya and additional opinions on design of websites, secured payment and other services using e-commerce in this area. E-commerce is very wide and important phenomenon. It practically involves rebuilding the distribution chains. It aims to cover end to end value points. In the field of information technology, the operations of different sectors of existence have become a significant facility, leading to fundamental changes throughout organizational structure and management. Those who understand E-commerce can see good opportunities in the world of online business. With the existence of electronic commerce (e-commerce) services, customers can access and place orders from various places. This study can help providers gain more knowledge of the views and preferences of their customers in order to improve the customer perception during the online purchase process.

1.7 Limitations of the Study

A self-reporting inherent in survey design is a limitation of this study possibly through understanding the scope of payment systems adopted by the customers. Another limitation is the reluctance of the respondents in providing valid answers to the questionnaires. Time constraint was also regarded as a major limitation whilst collating collected data prior to analysis.

1.8 Structure of the Thesis

The following chapters are structured: both the relevant literature and the theoretical framework of the theses are defined as outlined in chapter two. Chapter three would explain the thesis approach, and then Chapter 4 offers thorough analysis of the data obtained, while Chapter 5 would be the final chapter.

CHAPTER 2
THEORETICAL FRAMEWORK AND RELATED RESEARCH

In this chapter, the related literature that has to do with past research being carried out by other researchers in relation to this study and the framework theorectically, is being discussed in full details.

2.1 Introduction

Since the dawn of history, two parties have traded in person for the exchange of goods. Such a trade was eventually complicated and uncomfortable. Money was invented to allow a buyer to acquire something from a salesman without necessarily exchanging goods. Local, regional, national and ultimately international banks that control the printing of the money have ensured the security of monetary systems. New payment methods such as payment orders, checks and later "plastic" money have been invented in the course of time. These payments are possible without' real' money. Banks continue to ensure mapping between the payment tool and real money via secure financial clearing networks. Remote payment was eventually possible by using the same tools, though security then became a challenge. There has recently been a great interest in facilitating business transactions through open computer networks such as the Internet. The establishment of open networks makes safety problems even more important (Pedersen, 1995). Early concepts of perception studies have usually described perception as an assessment of a specific decision. Most researchers agree that perception is an attitude or assessment that is based upon the product's subjective perceptions of its performance (Kotler, 2000).

2.2 Theoretical Framework of the Study

2.2.1 Process payment system

Digital payment systems have developed and grew rapidly and complexly since the 1960s. Following the development of the traditional payment system, the Electronic Fund Transfer (EFT) was created. It was the first system of electronic payments to rely on a central processor. The Electronic Data Interchange (EDI) financial application for electronic transferral of funds sends card or electronic checks through secure private

networks to banks and key companies. In order to use EFT for clearing payments and settlement of accounts an online payments service must add the capacity to process order, account and receipts. But a milestone in that direction came from the creation of digital currency (Özkan et al., 2010). The emergence of digital or electronic money reveals the value of paper money as a medium for payment. There are therefore the same benefits as paper currency payment of digital payment systems, namely anonymity and convenience. Similarly, safety during transactions and storages is also essential in other electronic payment systems (e.g. EFT and intermediary-oriented systems), while duplications, fabrications and storage in digital currency systems are crucial issues from a different perspective, although remedying and responsibilities (where charges are not authorized) are critical for transferring money (Sumanjeet, 2008).

2.2.2 Types of digital payment methods

Here, we disccuss the various forms of digital payment methods that are being implemented in most developed countries (Teoh et al., 2013).These forms or methods of digital payments have been invoke for a while

1. Companies have developed NFC (Near Field Communication) and MST (Magnetic Secure Transmission) technologies to conduct transactions. You can easily make payment to merchants via its wireless magnetic waves without swiping your card via POS (Point of Sales) The MST enabled app you can download and the NFC device should also be supported by your phone. You can then make contactless transactions via your telephone at any of the merchants ' POS terminals after registering your card information (Yang and Fang, 2004).
2. This platform loads money into wallets through the digital wallet payment system. You can also add money with digital wallet apps when you launch e-wallets. However, the limitation is that only the same wallet can transfer funds. You can only transfer money to a PayTM wallet, or SBI Buddy app on your phone, that means, if you have a PayTM or SBI Buddy application that has these apps installed respectively. You can't simply transfer money from PayTM Wallet to the SBI buddy wallet application in another way. On the digital marketplace are also e-

wallets available: Mobikwik, Free, Oxigen, Reliance Money, Paypal, Buddy, Lime, Payzapp, Pocket, Yes Pay, etc.

3. You can still make payments from your basic phone by dialing the USSD code (Unstructured Supplementary Service Data) and by following the specific instructions, you can easily make payments. Payments are not possible via a smartphone or internet service. The GSM technology is used where messages are used for transactions. It's a platform that forms a medium between financial services and telecommunications. You have another dialing code for each banking app which you have to check for payments transfer from your service provider (Özkan et al., 2010).
4. Mobile Monetary Identifiers MMIDs are a unique seven-digit number that the bank issued once your mobile number was registered. Anyone wishing to send money and a person wanting to receive the money should have MMID for the specific transfer of interbank funds. You can, however, only transfer a small amount (approximately 10,000 Rs) in a day by means of MMID. Nearly all banks offer this small payment facility.
5. The UPI App-based payment platform has a unique virtual address creation feature to transfer money to the recipient without divulging your account number or IFS code. UPI works in real time, which means that money is instantly transferred. The other means of transferring funds are supported by UPI. All banking apps, including HDFC UPI, SBI UPI, ICICI UPI and most other private or public banks, are available with UPI facility. Now, most banks only integrate their UPI into their mobile banking application (Khalili et al., 2012).
6. The QR Code Payments System QR code is another payment transfer mechanism that only requires the scan of the merchant's QR code and the transfer of payments. The entire digital payment application, such as BHIM, uses mostly other banking applications to facilitate the transfer of payments. The black plate contains information about the articles in order to automatically scan the code information via the smartphone and make payments. During using QR code, you do not need to enter anything manually. In order to promote the digital payment initiative, Bharat QR Code was launched by the government (Sumanjeet, 2008).

2.2.3 Payment systems in libya

While the Central Bank of Libya (CBL) has not yet adopted DPS in Libya, it has sought to establish a national system of payments based on various banks ' network development initiatives. In terms of bank services in Libya, it has taken pioneering steps. Before the Internet was used for commercial transactions in Libya, most organizations used private networks for their online transactions, such as electronic data exchange (Shaaban and Alireza, 2009). In the last couple of years, payment systems have been expanding in Libya (CBL, 2014). Systems are based on advanced applications accessed throughout the Internet that allow the country to develop electronic means of payment that contribute to its banking and financial services sector's diversity, speed and accuracy. New investment horizons have also opened up (CBL, 2014). The Central Bank of Libya has taken these factors to take steps to develop a banking sector that is able to keep pace with international development (CBL, 2014). The Libyan Central Bank has initiated a scheduling process, launched a national payment system, and prepared for technical studies and strategic planning. Through contracts with international companies specializing in the implementation of the project components of the national payment system, the Central Bank of Libya has implemented these steps.

In addition to identifying main factors that influence the adoption of these mobile payment Systems as payment means, the study carried out by De Lunaet al.(2019) tries to compare the factors influencing customer acceptance of SMS (Short Message Service), NFC (Near Field Communication) and QR (Quick Response) mobile payment systems. The creation of a behavioral model describing the intent to use mobile payments was supported by an exhaustive analysis of scientific literature. The results and the news of this research is that they formulate a different behavior based on the user use of each of the payment tools proposed. Alternatives for businesses are the assumptions and consequences for management. Marketers are currently facing a "immediacy crisis" challenge: the need to meet consumer needs in real time during their shopping experiences to access material, information and personalized solutions. Today's digital innovations–such as video conferencing, mobile applications centered on locations and increased reality–provide a very customized and immersive environment for brand-consumer interactivity and

information exchange. Salvatore et al. (2016) conducted extensive interviews with more than 35 retailers, extensive international shopper surveys and pilot projects with banks and stores to explore how companies use digital technologies to transform customer experience. Our findings show that two major technological models are being employed by organizations, namely a virtual specialist and a digital assistant, to meet consumers ' immediate needs. The two models, as well as where necessary and success factors to remind managers, were also provided examples by the organization. Another research by Pantea et al. (2018) explored market dynamics and customer experience with the effects of intelligent technology. Increased consumer use of intelligent technology contributes to their awareness of their effect on practitioners ' shopping experiences. The academic literature does not, however, consider the effect on clients ' dynamics and understanding of the use of smart technology, coupled with customers ' behavioral purposes. Their research uses empirical studies in the first stage for a market study of this phenomenon. Based on the knowledge available in existing literature, a conceptual framework has been created and tested using a convenience survey by 330 consumers who shop in an advanced retail shop in London, UK. The proposed model was tested with Structural Equation Modeling (SEM). The study contributes to consumer behavior literature based on technology adoption by explaining how a learning endeavour, however, can not influence an individual's behaying intention. The research findings also reflect the role of customer dynamics and customer experience in innovative use of intelligent technology in retail environments. The findings and implications of their analysis also help to understand the determinants that influence the dynamics of consumers and customer experience in using smart technologies.

The evolving retail culture has a heavy use of mobile technology, high connectivity, all-round computing and contactless technology which makes shopping different for consumers. In addition to traditional in-store services (shopping in the shop and collect / consumer in the store), innovating mobile technologies offer new tools (apps) that are able to separate buying time and time from the moment of successful use, by allowing customers for mobile phone shopping and collecting at home or at the store (pick-up shop or collection point). To achieve their goal, 29 customers in the Italian market have used a qualitative approach, where mobile shopping remains at an early stage. The results

demonstrate how customers switch from e-Channels to mobile platforms and understand, from a cognitive point of view, the impact of these technological innovations in the retail sector, where studies are minimal. It was then addressed the impacts on researchers and practitioners, with a focus on retailers developing new mobile service skills and incorporating and synthesizing virtual technologies and functionalities in physical retail settings (Eleonora and Priporas, 2016).

Another study conducted in the container transport industry by Enna (2019) has examined service characters and consumer understanding. Our work focuses primarily on the study of key service characteristics and our effect on client perception of the container liner shipping (CLS) industry. This maps the dimensions of service quality to a new set of services based on the latest requirements of the transport companies for container liner. In a non-linear model, the data collected by the online survey is reversed. The results show, in this order, queue quality of a customer service representative, digital quality and sales representative quality are the three top service characteristics that affect customer perception. Evidence also indicates that the ability to provide long-term rates does not help improve consumer perception; digitisation is at the top of the liner management agenda.

E-commerce is an important issue in every country; digital payments in particular. The research done by James et al. (2015) survey is to establish an assessment model for the effect of service innovation, consumer perception and increase in customer satisfaction on e-commerce. Their study uses theory of means of service innovation to analyze influences and influence the relationship between the understanding of customers and customer satisfaction. In two months, three hundred data samples were obtained by means of an online survey and questionnaire. The results show that consumer satisfaction was affected by customer knowledge and creativity in services. Their research examined groundbreaking technologies, including self-check-in, X-ray, digital payment and e-commerce micro hotels. The result shows a positive balancing effect for all four facilities.

Digital payment systems reflect a price breakthrough, whereby businesses predict the future consumption of consumers for the next year and then bill a set of standardized, monthly digital payments. At the end of the year, a refund or extra payment covers the discrepancy between the forecost and actual use. Therefore businesses receive predictable

monthly payments for consistent access to funds and lower risk of consumer defaults. The reactions of consumers in an advance payment program to a refund or additional payment order remain, however, uncertain. The theory of prospects with an emphasis on silver-linencing and the hedonic editioning principles; mental accounting; and sequencing meaning (Fabian et al., 2015) give estimation ofconsumer pre-paid system preferences. The study shows that receipt of a refund decreases consumer perception, increasing their probability of complaints, and minimizing turnover and tariff adjustment, given that the reimbursed amount is not too high, has been used by 20,000 consumers to analyze their reactions to refunds and extra payments. The results demonstrate with detailed field studies the implications and boundary conditions of the silver lining theory (Fabian et al. 2015).

The dramatic shifts in the current marketing climate triggered by (dis)intermediation of digital media are well recognized by marketing academics. In the age of digital intermediation, the branding was digested according to the report by Katrijn and Steenkamp (2019). Four digital payments were discussed and how they influence the practices of incumbents and new companies. they discussed. We addressed intermediation of digital transactions, which is closely linked with the rise in e-commerce retailers. The second type is the disintermediation of ecommerce-based D2C models in digital transactions. These first two kinds of digital intermediation (dis) are largely top-down methods, in which businesses develop new ways of selling their products to customers. The two following kinds of physical intermediation are the bottom up— the driver's seat is the client. Crowdsourcing drives digital marketing intermediation and the development of D2C brand construction models. One final trend is disintermediation of digital marketing, closely linked to the growth of C2C models.

The factors that drive e-Satisfaction and consumption in e-commerce were further investigated by Tahir and Guru (2017). The Web has obviously led to a fundamental shift in retail practice, producing a revolution in customer and corporate conduct compared to the Industrial Revolution. The goal was to examine the understanding of the consumer in the field of e-commerce. The factors that affect customer satisfaction and customer satisfaction and consumer spends in e-commerce department in particular are calculated. In particular, the We analyzed how these trends affect American e-commerce firms, and how

marketing practices have mirrored the developing situation in e-commerce. The findings show that the satisfaction of our customers in American e-commerce stores has an effect on consumer spending (Tahir and Guru 2017). The relation between customer satisfaction and consumer spending is also positive, as increased e-satisfaction contributes to increased e-commerce expenditure. The results also show that e-services quality, e-satisfaction and e-loyalty are directly connected to consumer online expenditure. However, its analysis has shown that e-commerce still has difficulties in comparison with traditional offline retailers, since the product can not be felt by customers and tried and can ultimately choose products they do not want (Tahir and Guru 2017).

E-business uses digital channels to scale up its services and functions, and uses marketing initiatives to connect and retain its customers. The company will recommend additional items that the buyers may not recognize or find appealing to increase the probability of a sale. For reasons such as the delivery of relevant items, improving the cart value, and boosting customer engagement, Recommender Engine (RE) is considered a preferred solution here. Study template defines the emarketplace through the collection of items, customers and single selling offer (USP), collection, storage and processing of transactional information, and display of customer supporting marketing information even when buying from large areas for decision making. In a medium-size healthcare distributor based in India, an experimental study using a quantitative research approach was conducted to detect tangible benefits. This model has been tested with 100 online clients and the results show a growth in the average monthly revenue, average order value (AOV) of 32.79 percent (33.49 percent) and items per order (IPO) of 1,93 percent (Taghizadeh and Sepehri, 2013) when adopted by the methodology proposed.

As the communication technology grew rapidly, the mobile payment system became a popular way of facilitating payment transactions. Despite its widespread use, the intentions of mobile users to pay via mobile telephones remain largely unanswered in the context of developing markets. Furthermore, the impact of ethnicity on payment behavior is little articulated. The goal of this research is to explore the impacts, subjective norms and perceived behavioral regulation of intention to use Malaysian and Chinese mobile payment systems in Malaysia using the theory of planned actions as the foundational framework

(Hiram et al. 2016). This study is based on A comprehensive study by Hiram et al. (2016) has been used with questionnaire-based surveys for a quantitative approach. There will be distribution across the country of 450 copies of the questionnaire and the collection of 311 usable copies. Multiple linear regression and independent T-test survey are used to perform correlation and difference analyses in addition to descriptive analytics. Their findings show that their views are good for behaviors, social standards and perceived behavioral influences, and also have a positive effect on mobile payment systems. Their research emphasizes the need to understand what leads to the desire of users in developing countries to use the mobile payment system. It also emphasizes the importance of understanding what is and what is not shared in multiethnic and cultural countries such as Malaysia. It therefore offers insights into successful mobile payment system activity and marketing to use such communications technology to achieve service quality (Hiram et al. 2016).

Websites of the e-commerce network led to the international growth of companies. In the long term, in the adoption of e-commerce services for business development, it is important for a firm to manage satisfaction, trust and customer loyalty. A case study was carried out in the Malaysian hotel industry in order to explore the perception of foreign tourists as e-commerce service factors that influence satisfaction, belief or loyalty, by Mutia et al.(2015), who examined quality of service to customers. Developments in IT and internet are rapidly growing and are widely regarded to be the main driving force for increased use of e-commerce services worldwide, and in particular Malaysia. With regard to entry, e-commerce sites support the wider and international use of local customers. E-commerce also offers new manufacturing markets and more accessible services. Mobile payment enables customers via convenient mobile devices to make more flexible payments. Though mobile payment is simple and time-saving, mobile payments operation and safety must ensure that payments are fast, convenient, reliable and safe to improve user satisfaction. An evaluation of the factors that influence consumer satisfacción with the mobile / digital payment systems by Lisa and Wan (2017). In order to verify their conclusions, Pearson correlation analysis, and regression analysis are the methods of research used in their study: descriptive statistical analysis. Their findings indicate the support for all hypotheses. Mobile payments, however, remain subject to many development restrictions and related research is limited. Their results have disregarded the

factors affecting mobile payment satisfaction for users. Also available are the related mobile payment services development and future research proposals.

2.2.4 Factors affecting digital payment systems adoption

A number of authors have studied the factors that influence the successful adoption of DPS, with an emphasis on organizations or consumers. For instance, Takele and Sira (2013) carried out an examination to examine from an organizational perspective a number of factors affecting internet banking adoption in Oman. The results of the study give the adoption of internet banking in the Oman financial sector a realistic picture. Several interested observations have been discovered to be barriers such as security, lack of corporate strategic planning and software, lack of top-level management support, severe shortages in IT skills, and lack of support from the government. In contrast, Ansi et al. (2015) have looked at such factors as the customer's challenge of electronic payments in Ghana. The results were divided into four major categories, i.e. The issues of security, infrastructure, law and regulation and social and cultural problems. Consequently, economic, socio-organisational, political and technical factors together comprise the knowledge gap, which relates to factors that the current research seeks to address from an organisational and customer standpoint. These factors include;

2.2.5 Economic factors

The economic development of developing countries plays a key role in promoting the adoption of new technology in the DPS process, in this regard, few studies have shown that new technology can be integrated into economic requirements that the telecommunications sector could potentially evolve. Roycroft and Siriwan (2003), for example, stated that "the economics of developing countries always plays an important part in the promotion of use of technology", in the meantime, Wiliam and Simon (2006) argued that they believe that in five Caribbean countries, there are thirty-six corporations and government agencies, each facing several obstacles as a result of their study. Economic factors, for example, may not be enough to facilitate the isolation of DPS. Specifically, the banking area must develop cooperative strategies to meet the requirements of DPS. Baddeley (2004) argued that universal acceptance requires an analysis of key economic factors in an effort to achieve

successful technology adoption and DPS assistance. Only by introducing various factors, such as reduced Internet access costs and co-operation with existing institutions in developing countries, such as the cooperation of governments, businesses and banks can this be achieved. This was also in accordance with a Rosen (2001) study which claimed that the successful use of PayPal resulted in cooperation with a wide range of user companies (e.g. the web site for eBay auctions).

2.2.6 Socio-organizational factors

The reasons why social factors have a significant positive influence on the intention of people to adopt novel information techniques are explained by Shin et al. (2013) and Alghamdi et al. (2011), they argued that the government framework can link social and cultural factors: for instance, in Asia, it relates to government-built personal relations that are crucial for the adoption of e-commerce through the Internet (e.g. electronic commerce and DPS). Literature has been trying in the last few years to determine to what extent social factors play a role in speeding up decision-making in the field of online payments (Özkan et al., 2010). Social and organizational factors encourage e-commerce providers to adopt electronic payment systems. Therefore, the research aimed at examining the impact of the context on the Libyan telecommunications firms and then discussing whether it could affect the adoption of DPS will be considered throughout the study.

2.2.7 Political factors

Political factors are associated with groups formally appointed within a country and systematically implemented (Veit et al., 2014). In terms of public roles, policy factors clarify levels of IT advances and education experience, which enhance understanding and adoption of DPS by buyers and sellers. Adams et al. (1992) claim that there has been ample evidence that legal frameworks are a key barrier to the use of DPS. A consumer survey in Brazil argued that the use of DPS had been significantly hindered by public regulations. In particular, privacy, security, lack of business laws for DPS, inadequate legal protection for Internet buyers and concerns about taxation of internet buys (Tigre and Dedrick, 2004). Another Chinese study also found that consumers had a strong concern over online purchasing, owing to the lack of government laws promoting DPS adoption (Jennifer et al., 2003). Of interest to be noted is that, as a form of power in society,

political power permits governments to control public means, including labor and wealth. Vatiero (2009) argued. Moreover, political authority can be extended to people or groups with the power to influence society, rather than just leaders of the countries. Given the existence of an important legal framework to enhance trust in information, communication technology and e-business (and thus enhance the development of DPS adoption), this will be an important requirement.

2.2.8 Technical and system quality factors

Dalvand et al. (2014) describes technical factors in respect of problems with the acquisition of appropriate technologies to satisfy the requirements for DPS adoption. Turban (2002) argued that DPS faces various system quality limitations, such as internet, security, site confidence, DPS confidentiality, acceptability, ease of use, access and convenience. In the meantime, Turban (2002) argued. Security is an important concern in connection with online payment because it is based on data that can be hacked when insufficiently secured. Abukhzam (2010) further argues that trust and reliability effects have been shown in developing countries to be important safety concerns affecting the adoption of DPS and e-banking and further points out that the online medium of a transaction before using DPS is evaluated by individuals. Interestingly, the Libyan banking system is influenced by many negative effects, such as acceptability, ease of use, availability and convenience, which are all a barrier to e-banking, Ullah et al. (2013) claim in Libya, most of the fears of e-banks are about misreporters of transactions. Through the subsequent analysis carried out to see whether disorder in Libya might affect the adoption of DPS technically or not, technical factors shall be investigated here, in terms of whether this may affect the Libyan telecommunications industry.

2.2.9 Online customer satisfaction

The definition of customer perception has been widely discussed with increasing attempts by organizations to measure it. In different situations, customer perception can be experienced and linked to goods and services. It is a very personal evaluation, which is highly influenced by customer expectations. The perception of both company contacts and personal results also relies on the customer's experience (Cheung and Lee, 2005). Customer satisfaction is the cumulative outcome of experiences, evaluations and

psychological reactions to a consumer product or a service experience that communicates satisfaction in relation to his expectations about the perceived product or result, is that a person is satisfied with feelings of pleasure or disappointment. As an indicator of a post-choice judgment, the early definition of satisfaction research generally describes satisfaction. Anderson and Srinivasan (2003) have reported it is vital to customer loyalty and is a key consumer response in shopping online. With reference to Reichheld and Schefter (2000) researchers have introduced various ways of looking at many similar factors to determine customer satisfaction in digital electronic payments. Improved customer satisfaction may help a business improve their share of the market and productivity. Some researchers concentrate on factors related to the website, such as health etc. Such knowledge helps to identify characteristics and create satisfaction for customers in online stores (Hise and Szymanski, 2000).

Customer service is defined by Turban et al. (2002), as "a program of events used to improve customer satisfaction." Customer service provides support to clients in solving all problems which they may have (Liu et al., 2000). In an on-going relationship between retailers and their customers, customer service is vital for the five phases of procurement decision makingWith the advent of digital payments, online businesses will realize and accept these new social customers. The e-commerce platform includes a wide range of forms of customer service including customer enquiry, search and compare features, technical and other information, customer monitoring allowance and account customer configuration (Turban et al. 2002). It is extremely important for on-line consumers to be able to obtain free information on demand. The search process is also of decisive importance in the information search. Therefore creative connections and keywords are provided for e-commerce companies, allowing retailers to communicate with their customers online (Straub, 2000). When there is information search online by the consumer, there would likely be varieies of products and stores available at that time, and powerful search engines are important for price comparisons. In addition, the monitoring service also contributes to develop market research so that the company can take advantage of the preferences and needs of the clients. By signing on to the website, customers can always check their account balance and the shipping status of their products, as well as their stock portfolio status, the loan application and so on.

Therefore, it is important for the customer service that manuals and problem solutions be put in order and uploaded via the Internet at all times (Sauer, 2000). To improve services tocustomer, electronic commerce companies proffer a range of Web-based resources, including personalized apps, chat rooms, e-mail, automated responding, support desks and call centres. The degree to which a product or service meets or exceeds customer expectations. Corporate and individual clients may be able to buy a product or service on very different grounds, so any measurement of perception must be able to take these differences into account. In order to influence purchasing decisions, quality after-sales services can also have a critical effect. E-commerce and the traditional consumer business model have many different consumer behavior and the Internet is becoming more complex as web technology leads to a more difficult index of consumer satisfaction assessment. Previous researchers of information systems are mainly researchers, and the impact on customer satisfaction is more focused on an e-commerce system. Now many researchers from various fields have taken into account the overall factors that satisfy e-customers, customer satisfaction, build their own models and empirical analysis and research (Lee, 2001).

As can be seen, confidence has an effect and is affected by various factors, and a key factor in MPS adoption is the relation between these variables. In this sense, understanding consumer requirements for building confidence is a crucial platform for businesses to enhance their satisfaction as well as services for users insofar as customer relations are more difficult to maintain because of fewer face-to-face contacts (Bourreau and Valetti, 2015). Therefore, in order to facilitate the use of mobile payments it is important for services providers to create' initial confidence' for users (Zhou, 2014). In this regard, payment sector entities, in particular in the MPS market, should provide customers with the full functionality of the measures to protect customer information. Xin (2013) indicated that' consumers build their confidence through the mobile service providers ' credibility and the perceived environmental risk, systemic assurance and mobile payment providers.' In Zhou (2013), the key factor affecting trust is' service efficiency.' Shaw (2014) also shows concerns about privacy as well as security which have a major impact on trust. Teoh et al. (2013) disputed this, however, and revealed that the trust and security perception of the consumer regarding e-payment is insignificant. Some scholars indicated that consumers

need to learn about mobile payment systems, or at least know how they work. Slade et al. (2015) found that' including MP information as a moderation variable showed that the impact on the behavior of those who understood MP was significantly different from those who knew MP.

2.2.10 Effect of digital payments on customer satisfaction via e-commerce

The daily increase in internet and e-commerce has changed the way products and services are marketed and sold. The development of electronic information resources and the development of digital age have resulted in numerous new problems for product sellers and information services providers. The Internet changes the way companies deal with their consumers, who expect ever higher services, are saved time and want more convenience. Given how we manage service quality – which matters greatly to customer satisfaction – is one of the principal tasks of the internet as a communication channel, the goal of this research is to better understand the impact of web site quality factors on customer satisfaction.

Quality of service (Caruana and Malta 2002) was a major factor in customer satisfaction. Yang and Fang (2004) have identified the quality of online services and their relationship of satisfaction. Service quality dimensions include reliability, reliability, usability and skills. Another dimension of internet banking services is important for customer satisfaction (Jayawardhena and Folie 2000), such as download speed, design, navigation, security and contents. The first essential attribute is the quick order performance and confirmation, which requires both adequate system capacity and support from customers. The second aspect is that the online trading system is precise and correctly recorded, including correct order fulfillment. The accessibility of the websites is the third important aspect. In addition to traditional communications methods like telephone calls, online customers particularly desire a quick replies and quick confirmation via e-mail. The fourth important aspect is the e-mail response. Finally, online customers are concerned with the safety of transactions and personal information (Yand and Fang, 2004).

Previous surveys have recognized that Gholami et al. (2010) suggests both cognition and impact significantly. Process satisfaction definitions stress the disconfavorable paradigm

and customers formulate performance expectations according to that paradigm. Pitt et al. (1995) believe that service quality is also the key to measurements of user satisfaction. The close relationship between quality of service and customer satisfaction was therefore given considerable importance by researchers. And Ezeoha (2006) study has assessed the impact on customer satisfaction of digital payments. Primary data were used in the study. 164 randomly selected students from Redeemers University received a structured questionnaire. The obtained data was subjected to descriptive statistical analysis and multiple regression analyses. The results showed the customers' satisfaction (in-house and together) was positively and strongly affected by Internet banking, mobile banking, ATM and POS systems. Moreover, customer satisfaction and mobile as well as internet banking have the highest influence. Customer satisfaction is affected by POS system the least. A recent study has also been carried out by Ogochukwu et al(2018), which analyzed customer satisfaction with electronic insurance procurement payments in Nigeria. A simple random technology and questionnaire took part in the metropolitan of Lagos, 278 respondents. The result was a lack of satisfaction among customers regarding the use of electronic payment systems in insurance product procurement. Their research suggests that insurance undertakings should improve the informing of the insurance public on the various payment methods of electronic insurance acquisitions to ensure greater involvement through the electronic process and that government itself should create a public atmosphere to avoid continuous net failure. It trains insurers in the dynamics of electronic payment systems.

2.2.11 Unified theory of acceptance and use of technology (UTAUT)

The theory suggests that four main constructs (expectation of success, expectation of effort, social influence, and ease of use) are direct drivers of purpose and behavior. The impact of the four key constructs on use intent and behavior is moderated by gender, age, experience and willingness to use (Venkatesh et al., 2003). The theory was built through a study and synthesis of eight models used to describe the actions in IS (theory of reasoned action, model of technical acceptance, model of motivation, planned behavioral theory, a blended behavior/acceptation of technology, model of PC usage, theory of innovation diffusion, and social awareness) that had been used by earlier research. Following

validation of UTAUT in a longitudinal study, 70% of the variance in usage intent was identified.

2.3 Related Research

The related literature basically entails major and minor researches alongside their findings in relation with this study that has been previously carried out by some researchers.

2.3.1 Digital payment systems definition

The aim of the Digital Payment Services (DPS) standard definition is to describe the key entities involved and transaction processes since the emergence of e-commerce. Significant work is being done. Business via the Internet and the subsequent development of DPS has given rise to a dynamic environment in which the major benefits of business transactions for online strategies are without the remedy of face-to-face interaction (Raza and Hanif, 2013). Several studies have described digital payment in numerous ways. Tennyson and Mercy (2014), in the case of electronic signals between financial institutions, have described digital payment as a kind of monetary transaction in which funding is transferred instead of exchanging check, cash or other negotiable instruments. In Stan's previous contribution (1997), this was considered a way to pay electronically without physical cash.

Ayo and Ukpere (2010) claimed that electronic payments are an automatic system for the exchange and transfer of monetary value between corporate partners over the IT network. Annon (2003) previously pointed out that efficient payment systems depend on non cash payments and commented further on an efficient and reliable payment mechanism's economic development. In addition, there are a number of advantages in enhancing reporting financial efficiency by using electronic payment systems, in order to reduce corruption, to pre-condition electronic payments, including protection, universality, cost effective, speed, accessibility, acceptability, convenience and privacy (Nwanking and Ajemunigbohun, 2016; Tennyson and Mercy, 2014). As a result, DPS activities continue to become more popular, with many payment systems being created to make it easier for customers to exchange money over the Internet. The DPS system, for example, includes ATMs, e-checks, smart cards and solutions like mini PayPal. EPS has various tasks for users, including P2P and DPS (Anyanwu et al., 2012). Khalili et al. (2012) argue that both

trade and electronic systems are developed by EPS, which helps users to avoid the use of credit cards. With the initial broad adoption of the Internet, the potential for commercial use and in particular e-commerce were highly anticipated. Because these forecasts were short-term too optimistic, trade and political focus turned to obstacles in the development of e-commerce. OECD household surveys have highlighted a number of trade barriers, such as consumer resistance to payment on-line, which are prominently highlighted (Abili and Jafarnejad, 2014).

A number of problems related to on-line payment systems were often used as one of several important factors to explain the slow growth of electronic trade. Such claims addressed in part the abuse of online shopping due to an absence of appropriate payment systems, consumer confidence in electronic payments and/or the issues with the payment security mechanisms perceived. In other words, payment problems and other variables such as product inadequacy, unknown sellers and buyers, and uncertain distribution conditions were seen as a significant reason. A payment system's main function is to provide a means to transfer value among various economic parties. As such, the cost of the transaction is partly economic. It will be designed to allow fast and efficient transfers of value, while requiring minimum extra costs and risks. High costs of the payment process can seriously affect economic activity by reducing and making transactions too costly. In contrast, lower costs could have a positive effect on economic growth through efficient payment systems (Hakimi, 2010).

Jayaram and Prasad (2013) noted that online banking services applications are growing fast. The role of the Internet in DPS, which provides an online transaction platform like online shopping, online auctions, stocks trading and so on, is emphasized in this regard. However, although EPS offers many advantages, including increased speed transactions and lower management charges, uncertainty and security concerns remain (Changsu and Wang, 2010). DPS refers to monetary transactions and related transactions by means of an electronic means, according to Hasan et al. (2012) Usually, computer networks such as the Internet and digitally stored value systems will be used. The system permits bank accounts to pay directly without having to write and post checks. It offers customers safe and secure payment methods rather than paying in cash by cheque; it is one of the main advantages of

the use of DPS. Heng (2007) presents a report on efficiency and efficiency in retail payment systems conducted in Thailand. The following considerations should, however, be considered: e.g. comfort, reliability and security in payments, service quality, including features like the speed with which payments are processed and charges charged by financial institutions at a level and structure ; e.g. the taste, the demographics and technological developments that can increase speed, convenience or flexibility.

EPS has been recognized as a key tool for supporting online transactions (Teoh et al., 2013), so the nature of payment may be defined. Abrazhevich (2001) has given one such definition, defining DPS methods of payment in a faster, less effective and cheaper way than can be achieved by credit cards to facilitate online transactions. Yu et al. (2002) argue that DPS may work completely without credit cards, claiming that the promotion of e-commerce is one of the reasons for the adoption of DPS. However, payments made by individuals to enterprises, banks and government services or to government by electronic telecommunications networks could also be seen to be included in DPS (Sumanjeet, 2008).

2.3.2 Concept and size of digital payment

Payments constitute an integral part of the business process and an integral part of the electronic payment system for e-commerce. Payment systems using electronic distribution networks have been common practices in the banking and corporate sector since the 1960s, particularly in the transfer of large amounts of money. There have been major changes in technology, including electronic payment systems and creation of new business and social practices, over the course of the four decades since its creation. Such changes inevitably affect the concept of electronic payments, which is established according to the needs of each time. The most general phrase ' electronic payment' encompasses any payment made by people or companies through a telecommunications or electronic networks to corporations, banks or government agencies (Juang 2006). Electronic payments which are subject to the present outcome obviously are payments made by the payer in compliance with such meaning, whether the latter is a customer or an undertaking, without intervention by another natural person. Moreover, payment is made from a distance and does not include, of course, cash without the physical presence of the payor. Researchers include exchanging information on the accounts of those participating in the e-commerce

transaction and providing the concept for the electronic payment system for payments through which payment is transmitted (Sumanjeet 2008).

The advancement of EFT technology has contributed to a real revolution in the importance of the electronic payment system. EFT is a technology that enables funds from one person or organization to be transferred to another on a bank account. The EFT is a consumer computer technology. EFT also uses the behavior of the implementation of this technology. An important addition is the company that implements EDI within its organization (Baddeley 2004). Therefore, the next logical step in the transferral of electronic and bank funds was the online transfers of money, which started well ahead of the Internet itself. The online payment system used and built in tandem with e-commerce and the electronic funds transfer program, however, is fundamentally distinguished. The first took place on proprietary systems almost entirely, the latter being accessible to the public via the electronic medium (Sumanjeet 2008).

2.3.3 Emergence of digital payment in electronic commerce

E-commerce is increasingly becoming an important way in which global consumers, sellers and suppliers execute transactions that are tailored to current business requirements within the global business climate. The worldwide business environment is increasingly competitive, and consumer demands for goods and services are also significantly higher (Cheung et al., 2005). In these circumstances, e-commerce demands and popularity are becoming increasingly significant. With reference to the electronic commerce, a type of industry that is used to buy and sell products and services through electronic systems such as Internet or other computer networks (Sauer 2000). IT was instrumental in the development of e-commerce in promoting internet, e-mail, mobile devices, social media and smartphones. With regard to its reach, e-Commerce is described as e-traders, rather than any other type of business transaction (Zhou, 2008), for example, exchange to face-face or direct interviews. The technologic compilation, including data (e.g. electronic data exchange, e-mail), data collection (e.g. mutual databases, electronic newslettern) as well as automated data collection, e.g. barcode is to be given from a technical standpoint (Zhou, 2008).

E-commerce refers in general to a wide range of IT companies. Of online transactions, electronic payments, a wide range of enterprises and industries, financial operations and integrated management activities, buyers and sellers execute different companies with real-life business meetings. There is no doubt about the immense impact of e-commerce technologies on the business world, as both traders and consumers profit from them compared to traditional business methods. But during the e-commerce development process, there are still certain limits (Kuzic et al., 2002). The growth of e-commerce has also significantly changed the life of the consumer. On the Internet, consumers can find products quicker than to visit the physical shop by visiting a website comparing their shops, which could reduce time taken for travels and customers's cost. Therefore, online shopping is far more convenient to buy sales, promotions, discounts and group transactions than traditional counterparts. The increasing competition among organizations is causing increased competition among the e-commerce industry, which means organizations can offer customers greater discounts (Coulson, 1999). As the Internet's capabilities expand and continue to be used, online commerce will undoubtedly have a major impact on national economies and on the nature of the industry. E-commerce has assumed two key roles: firstly, as a more effective, efficient driving force and knowledge aggregator; and secondly, as a potentially replacement mechanism for many economic activities that were once carried on by external suppliers in the sector, vying for these activities with each other. As a result of this increased outsourcing opportunities, the e-commerce benefits will be exploited by disengaging as many links as possible from their production line, in order to search for the most effective and low-cost e-market provider (Zeithaml et al., 2000).

Given the global reach of the Internet, these new e-markets have rapidly developed into a global product that will lead the Internet and electronic commerce to further the global integration process. In its fundamental form, e-commerce consists of any internet transaction. This usually means transferring goods, services or information. The Internet is just the latest stage in ICTs, which have made information more accessible, faster to collect, less expensive to consume, and easier to analyze effectively. Because of technology's generally low costs, access to the Internet is generally more accessible than any other electronic communication or IT means before. While using electronic communication means (e.g. e-mail systems) is no new way of communicating and

exchanging goods and services, today's e-commerce system is more efficient because it uses the best Internet quality (Van et al., 2001). The ubiquity and interactivity of the Internet, its capacity for integrating data platforms and distributing intelligence allow e-trade to discover new markets and consumers. E-commerce thus only accelerates the long-standing trend towards globalisation, integration and specialization. E-commerce depends on efficient communication and exchange of information. Most e-commerce communications are electronically transmitted. Therefore, the capture and use of information throughout the distribution process is facilitated by digital communication. In order to collect information in one component which can be used in other components, the Information System needs to be integrated. Channel members and customers who need data to complete their work successfully must have access to the information. It should be safe to provide information. The access to it should be restricted for those who do not. (Kleindi and Burrow, 2005).

Throughout recent decades, different studies centered on the effect of trust on users ' adoption of new payment systems. Several researchers, including the Mobile Payment Systems (MPS), have studied the effect of confidence on the use of new payment systems by consumers. For instance, Xin et al. (2013) reported confidence is a key element in the intention of consumers to use MPS. Duane et al. (2014) suggested that trust is the strongest element affecting people's plans to make payments using their smartphones. Cao et al. (2016) have said that the perceived confidence is the most important among all factors affecting the users' decision implementing MPS. Eventually, Gong et al. (2016) point out that mobile payment trust possesssignificantly stronger impact upon consumers' willingness to use while corresponding faith in payment via mobile,its effects can be directly and indirectly bassed on deliberate use.' Nevertheless, given the importance of confidence in MPS adoption, some authors suggested that confidence has an effect on the adoption of MPS in conjunction with other factors. For example, Killian and Kabanda (2017) emphasized that' confidence, danger and habitual use are factors that have a significant influence on South African middle-class citizens' intent to make mobile payments. Lwoga and Lwoga (2017) said the awareness, trust and usability of m-payment services is predicted to provide a perceived ease of use. Chen and Li (2016) observed that "trust has an impact, positively on perceived value after acceptance and a impact that can

be negative on perceived risk after adoption. Yang et al (2015) have shown that' consumers first build up trust as a precedent of their perceived risks in recent phase of China's payment via online.' "Initial confidence positively affects perceived benefits and perceived comfort and, together, predict intention of use," Gao and Waechter (2015) suggested.

2.3.4 Consumer behaviour analysis

Digital payment users can be classified into two types of customers and businesses. Organized customers include states, private companies, resellers and public organizations that use the added value of goods to their sales, not personal use of other products to manufacture them (Charles et al., 2000).

2.3.5 Internet consumer behaviour model

The Consumer Comportment is defined as

> "the action of individuals who are involved directly in the acquisition and use of consumer goods and services, including the decision-making process preceding and determining the acts" (Schaupp and Belanger, 2005).

This model of consumer behavior for digital payments basically describes the purchasing decision as a response to stimuli from custodians covering marketing factors and other economic, technical, political and cultural influences. The procurement process is essentially a response from a customer to offers which includes marketing factors and other economic, technical, political and cultural factors in accordance with this Digital Payment Model. The customer's response process is also focused on the customer's private qualities, environment, logistics, technological factors and customer service. Four groups, including the information available, the government regulations, legal restrictions and situation factors, can be divided into in four categories namely; variables being cultural as well as being social, variables being psychological and environmental variables. In addition, the seller's controlled system also affects internet user purchase decisions, including distribution, technical support and customer service, with regard to payment considerations, delivery, website design and smart agents.

Additionally, the theorectical aspect of this thesis basically involves the process and various methods of digital payment systems that would be discussed, the payment systems

particularly in Libya as well as the factors literally affecting the adoption of digital payments in general would also fully be discussed.

CHAPTER 3
METHODOLOGY

This chapter encompasses the accepted methodology as well as the research model that was literally implemented during the analysis of data collected by the researcher.
Also discussed in brief details or in details, are the tools for data collection, reliability test of questionnaires, demographic data of the research participants and then test results with respect to reliability.

3.1 Research Model

To determine the view of customers, the researcher has regarded six factors which are easy to use, consumers' perception, benefits, self-efficient, trust and security and then, the effect on the other aspects using the embedded UTAUT system. This research model was adopted (Davis, 1989; Venkatesh et al., 2003). Figure 3.1 presents the structure of this research.

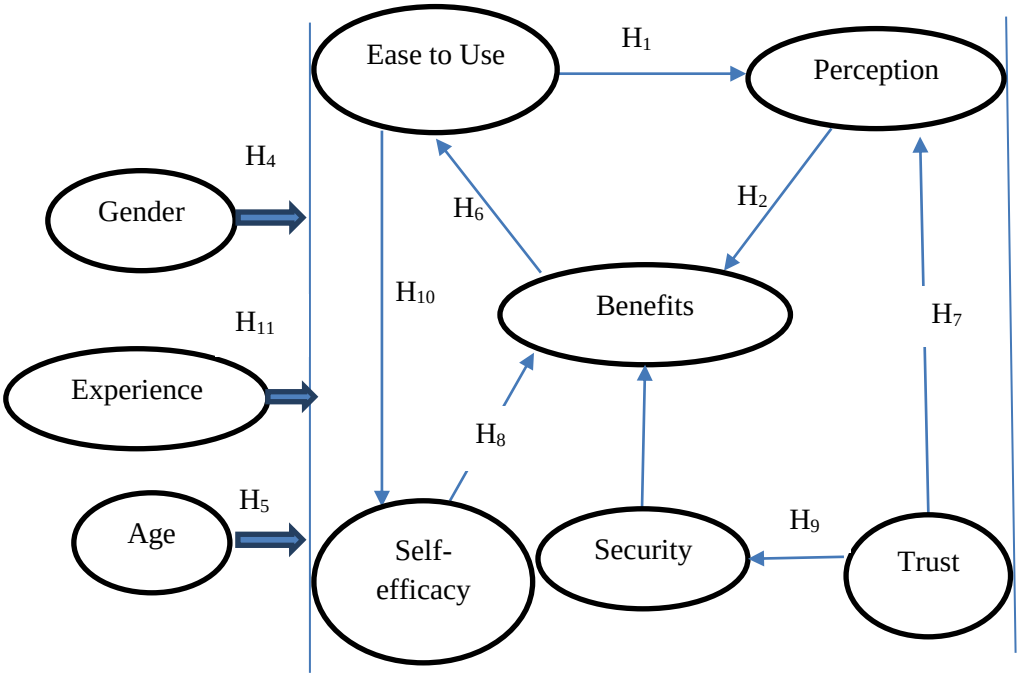


Figure 3.1: Research model

3.2 Research Participants

Participants of this study were individuals from two major cities in Libya. The collection of data was achieved after the researcher successfully and evenly distributed the questionnaires for individuals in the cities to fill. The aforementioned cities where questionnaires were distributed are *"Tripoli and Misrata*" in Libya.

The contents of the questionnaire were voluntarily filled by the participants and then the total number of respondents in the study was 403 in figures all of which were learned individuals regardless of their level of education.

The questionnaire is made up of 25 questions (demographic questions inclusive) which was basically put together from scientific paper written by other researchers(Wendy et al., 2013) and then carefully selected by the researcher, was to truly ascertain the true impact of the digital payment system in Libya. The respondents had to reply a 5-point Likert scale, labelling the items as "*Strongly Disagree* (SD)", "*Disagree* (D)", "*Neutral* (N)", "*Agree* (A)" and "*Strongly Agree* (SA)". The items chosen by the participants were examined with their remarks and suggestions in focus. The reliability of the questionnaire was finally determined by the most favourite technique known as "Cronbach Alpha".

3.2.1 Demographic data of participants

The perception and attitude of someone may be influenced by gender considerably (Gefen and Straub, 1997). Several scholars regarded gender as a key aspect and the impact in determining the intention of customers (Zhang, 2012; Riquelme and Rios, 2013). In his studies, Jayawardhena et al. (2009) found the distinction in the awareness of men and women in any portable acceptance.

Table 3.1: Demographic data of respondents

Demographic Variables		**Number**	**Percentage (%)**
Gender	Male	226	56.1
	Female	177	43.9
Age	17-26 years	117	29.0
	27-36 years	146	36.2
	37- years or above	140	34.7
Level of Education	High school	26	6.5
	Bachelor	208	51.6
	Master	130	32.3
	PhD	39	9.7
Experience with Digital Payment	Less than a year	125	31.0
	2-4 years	143	35.5
	5-9 years	56	13.9
	Above 10years	79	19.6

Table 3.1 depicts the demographic data (frequency table) of the respondents who participated in this research. A total of four hundred and three (403) individuals and this basically encompassed males of about 226 (56.1%) and females of 177 (43.9%). Those respondents having an age group that consisted of the largest age group, was 146 respondents within the ages of 27 to 36 years old, then followed by respondents within the age range of 37 and above had 140 participants, and then lastly but not the least, 117 respondents had their age falling within 17-26 years old. The level of study of the participants was ranked with the Bachelor degree level of study as the highest with 208 respondents with a percentage of 51.6. Next was the Master's degree holders with 130 having 32.3%. PhD holders or students had a mere total of 39 out of a possible 403, with just 9.7%. Then finally respondents with the High school level of study had 26 with 6.5%. The highest group based on experience on digital payment had 143 (2-4years of experience) with 35.5% out of a possible 100%. This was followed by 125 respondents, with less than a year's experience, with 31.0%. Then again, 79 respondents with 19.6%

having years of experience of 10 years and above and the least of them was the respondents (56 of them) with 5-9 years of experience, with 13.9%.

3.3 Data Collection Tools

Primary as well as secondary data collection was carried out respectively in this study and this section details what they encompassed. For the primary data collection, it solely contained the use of questionnaires that were evenly distributed to respondents (403 valid questionnaires) as already been mentioned. These questionnaires nevertheless were adopted from journals in reference to the impact of the Digital Payment Systems with reference to its implication/usage in Libya and was provided with the sole aim of collecting responses from the sample provided of which those responses collected, are regarded as a "valid data" (Wendy et al., 2013). That consists of the customers' perception, time, accuracy, quality of service amongst other variables. For the secondary data collection, it dealt with basically the collection of information from the internet, electronic books as well as top journals.

Evaluation of the study required a basic instrument of measurement which is reliability and validity. In other to test, reliability analysis would be achieved using Statistical Packages for Social Sciences (SPSS) Cronbach Alpha. The Likert scale format – five-point scale, was used to enable the respondents select answers based on the customer's level of agreement, being neutral or disagreement as the case may be. They were categorized as "SA, A, N, D and SD" (Wendy et al., 2013).

The questionnaire consists of two separate parts, the first one includes the demographic data of the respondents and then the other section comprises 6 dimensions linked to the study model: 5 questions on benefits, 4 questions on trust, 3 questions on self-efficacy, 2 questions on ease to use, 2 questions on security and lastly but not the least, 4 questions were on Users' perception towards the digital payment.

3.3.1 Reliability test

A credibility test has been performed to verify whether the issues are structured in a manner that prevents partial data to evaluate the feasibility aspect of the research. In order to verify accuracy/reliability in SPSS, the "Cronbach Alpha" was used. Reliability which

should be mostly acceptable should vary from 0.6 and anything less than that is deemed to be unacceptable hence, modification should be carried out in order to achieve a satisfactory outcome (Sekaran, 2000).

Table 3.2: Reliability test for questionnaire constructs

Constructs	**Number of Items**	**Cronbach Alpha**
Benefits	5	0.696
Trust	4	0.671
Self-efficacy	3	0.682
Ease to Use	2	0.764
Security	2	0.690
Consumers' Perception Towards E-payment Systems	4	0.665
TOTAL	20	0.863

The reliability of more than 0.6 coefficient shown in Table 3.2 depicts all dimensions which implied that their corresponding questions were adequate/satisfactory enough. The results attained were quite pleasing which indicated that the search could advance as a proof by an aggregate reliability of *"**0.863**"* which is for an all-inclusive questionnaire.

3.4 Analysis of Data

Questionnaires of about 500 were distributed in both cities (250 for each city). 54 of them were missing and 446 were then collected by the researcher. When the information was inserted into the Statistical Packages for Social Sciences (SPSS) version 21, the researcher found out that 43 of the questionnaires returned/collected contained certain unresolved questions that would mean that data analysis would have to exclude them. In other words, the 403 questionnaires left were valid and for further assessment have been entered into SPSS. To test hypothesis and to find solutions to the thesis' questions provided, the following evaluation techniques would be used.

- Descriptive Analysis
- Pearson Correlation

- Independent T-test
- ANOVA (Analysis of Variance)

3.5 Research Procedure

In other to ensure that this research brought about very reliable result, the following procedures/steps were taken so as to achieve this.

- The researcher conducted a literature review so as to comprehend completely the topic, to find out what other researchers have found and to find out if the literature had any omitted breaches.
- The researcher's thesis supervisor examined meticulously the questionnaires and made adequate corrections.
- Letters of approval were emailed to the "*Ethics Committee*" of the university in which the researcher schools in order to ask for the permission to go and do the field work before the researcher could proceed.
- 500 questionnaires were evenly distributed in two cities in Libya namely *Tripoli and Misrata* during the month July 2019.
- 446 questionnaires were submitted by respondents to the researcher at the end of July 2019.
- Data attained were evaluated using SPSS version 21 in August2019.
- Descriptive statistics, Independent t-test as well as ANOVA data was used to analyse the gathered data.
- In Chapter 4, the findings/results are debated in details and recommendations are also presented for further research.

3.6 Thesis Schedule and Gantt Chart

The time frame of each assignment recorded in the research timetable is shown in Table 3.3 below

Table 3.3: Thesis schedule

Task or Procedure	**Duration (Weeks)**
Research proposal	4
Submission of Proposal	2
Design of Questionnaire	1
Literature Review	6
Data collection	4
Data entry into SPSS	2
Data Analysis	3
Conclusion of study's last sections	3
Supervisor's review of the research	3 (constant process)
Corrections	4
Total	32

Additionally, the Study's Gantt chart is shown legibly in Figure 3.2. A total of "32 weeks" was needed for the entire research to be completed.

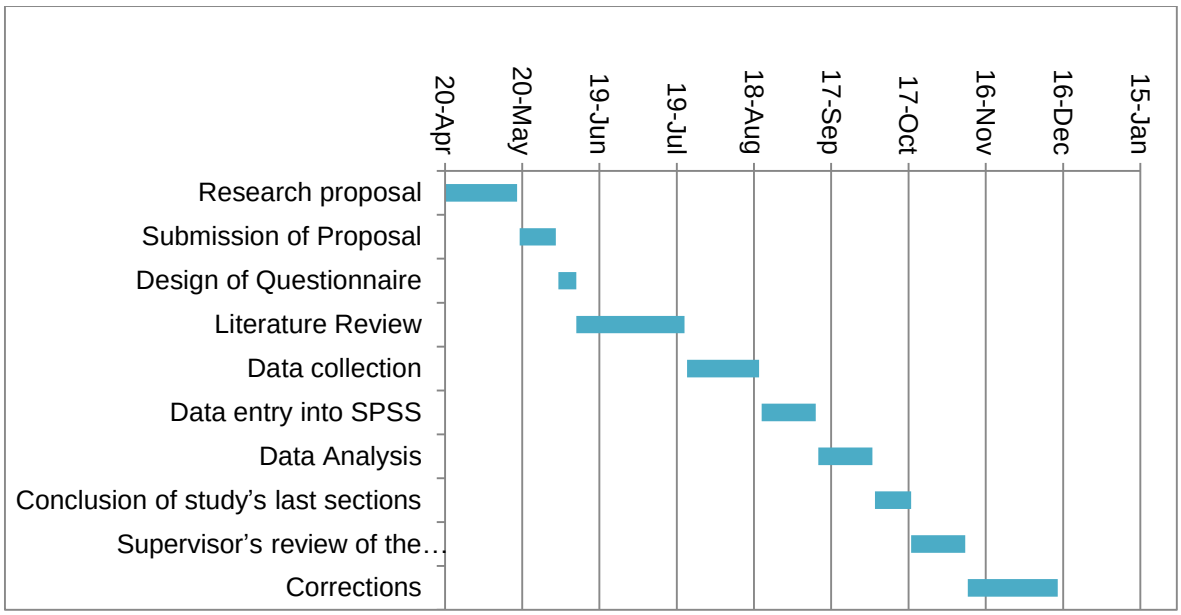


Figure 3.2: Thesis' gantt chart

CHAPTER 4
RESULTS AND DISCCUSIONS

This part of this study provides detailed results as well as discussions attained during the analysis of results meant for the study.Results gotten by previous researchers is been compared with the results gotten by the researcher and hence, a conclusion is drawn.

4.1 Factors Affecting Satisfaction of Digital Payment

What factors affects customers'satisfaction of Digital payment in Libya?
Below is a simple table that depicts how every factor as regards this study affects the general satisfaction of the customers that implements digital payments for online transactions in Libya with resepect to the mean and standard deviations.

Table 4.1: Factors affecting the satisfaction of customers using digital payment

Factors		**Benefits**	**Trust**	**Self-efficacy**	**Ease to use**	**Security**	**Consumers' perception**
N	Valid	403	403	403	403	403	403
	Missing	0	0	0	0	0	0
M		2.30	2.93	2.45	2.78	2.23	2.25
SD		0.90	1.04	0.95	1.01	0.82	0.87

Table 4.1 above shows mean with thestandard deviations of the various factors affecting the general satisfaction of customers using Digital payment in Libya. Results obtained depicts that Trust of DPS (M=2.93; SD=1.04) is the "main factor" which affects customers'satisfaction of Digital payment in Libya, customers are keen to comprehend how the way platforms are used firstly then they can indicate desire or acceptance in the adoption of the technology.The next factor being "second" from our results is Ease to use (M=2.78; SD=1.01), most customers as regards this factor were neural. The "third" rated issue that affects digital payment acceptancewas Self-efficacy (M=2.45; SD=0.95) inferring clients don't fear new innovation, they are very quick to give it a shot even without anyone else. The "forward" appraised factor was Benefits (M=2.30; SD= 0.90) if

clients feel that utilizing advanced installment will be valuable to execute and they are happy to embrace digital payment in Libya. The "fifth" evaluated factor was clients'/customers' observation (M=2.25; SD=0.87) suggesting that if clients see that they will appreciate (fulfilled) utilizing digital payment they are happy to receive it. The 6th evaluated factor was security (M=2.23; SD=0.82) which means if clients comprehend the aim and to perceive how secure it tends to be behind utilizing digital payment in Libya, they are eager to acknowledge the innovation. Various specialists (Kaplan and Pucciarelli, 2016; Wendy et al., 2013; Venkatesh et.al, 2013; Cao et al., 2016) have laid out several issues why such problems block acknowledgment and appropriation of digital payment in some different nations. The analysts demonstrated that "trust" assumes a basic job in acknowledgment, individuals will, in general, be impacted by their internal circles, if their loved ones are as of now utilizing digital payment and furthermore feel that digital payment is great, they are probably going to receive that tech. What's more, scientists additionally referenced that apparent usability assumes a basic job, if clients see that they can without much of a stretch utilize digital payment for online exchanges contrasted with the conventional techniques they will rush to receive. Moreover, Phillips et al. (2017) additionally express that apparent convenience assumes a basic job in acknowledgment of any innovation. The scientist expresses that innovation ought to be anything but difficult to utilize, the perplexing it gets troublesome it becomes for clients to embrace to the new innovation..

4.2 Relationship Existing Between Ease to Use and Customers's Perception of DPS

Here, we determine the basic relationship that has to do with the ease of use of the digital payment system with every customers' perception.

H1: Ease of Use has a positive effect on the Customers' perception.

Table 4.2: Pearson correlation between ease to use and customers' perception

Correlations			
		Ease to Use	**Customer's Perception**
Ease of Use	Pearson Correlation	1	.403**
	Sig. (2-tailed)		.000
	N	403	403

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

As seen in Table 4.2, in the bid of getting the relationship that exists between the of use by these customers and the perception of these customers, Pearson correlation analysis was successfully implemented which basically showshypothesis (H1). Table 4.2, vividly displays the verdict of results as regards the hypothesis H1, indicating a weak positive correlation effect of the Ease to use on the Customers' perception. In other words. the correlation supports the fact that indeed, a positive effect exists between the average ease to use of the Digital Payment Systems and the Customers's Perception when making use of the Digital Payment Systems (DPS). Furthermore, the Table 4.2 displays the mentioned variables,significantly at p=0.000, N=403 and cc=0.403. Knowing p to be less than or equal to 0.05, we hence, take the hypothesis, provinga relationship exists between them. Additionally, Sig. 2-tailed shows significance between both mentioned variables (DPS ease to use and Customers' Perception).

In 2016, findings by two researchers detailedlimit to which consumers have migrated from e-channels to mobile channels, taking into account the effect of these rise in technology based on retail settings from a cognitive perspective in the limitation of studies. In other words, customers seeked way by which payment systems "online" would be easier and better to be deployed so as to affect their perception in general and the implications for researchers and practitioners were then discussed, with emphasis on retailers need to develop new mobile service competences, and integrate and synthetize physical retail settings with mobile opportunities and functionalities (Eleonora and Priporas, 2016).

4.3 Relationship Existing Between the Perception of Customersand the Benefits of the DPS

Perception of customers and the benefits of the digital payment system is analyzed and thus results can be seen in Table 4.3

H2: Perception of Customers has a positive effect on the Benefits of the DPS.

Table 4.3: Pearson correlation between customers' perception and benefits of the DPS

Correlations			
		Perception	Benefits
Perception	Pearson Correlation	1	.312**
	Sig. (2-tailed)		.000
	N	403	403

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

From Table 4.3 above, the initiation of the idea of the relationship existing between the two factors (Perception of Customers and Benefits of DPS) was carried out via Pearson correlation with discovered outcome are arranged. There existed a weak positive relationship between the referenced factors and they are noted by cc=.312, N=403 and p=.000. The value of "**p**" being below 0.05, depicts that we acknowledge the proposed hypothesis and infer that indeed a weak positive correlation existed between Perception as regards the Digital Payment Systemsand the Benefits that comes alongside the Digital Payment Systems. Again, Sig. 2-tailed indicates that there is significant relationship between both mentioned variables (Perceptionand the Benefits of DPS).

According to Ogochukwu et al. (2018), similar research was conducted just last year and the findings that were realized investigated the perception of customers as regards electronic payments in the procurement of insurance products in Nigeria. In the metropolis of Lagos 278 respondents were taking part in a simple random technique and questionnaire. Their results showed a low level of customer perception with the use of electronic payment systems in the procurement of insurance products. Their research suggests that insurance companies should enhance the process of informing the assurement

population about the various methods of payment by electronic insurance purchases to ensure greater involvement via the Digital Payment Systems.

4.4 Relationship Existing Between the Security and the Benefits of the DPS

H3: Security of DPS has a positive effect on the Benefits the DPS

Table 4.4: Pearson correlation between security and benefits of DPS

Correlations			
		Security	Benefits
Security	Pearson Correlation	1	-.081**
	Sig. (2-tailed)		.105
	N	403	403

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

Results attained in Table 4.4 deals with Pearson Correlation which again was executed so as to comprehend the idea of the existing relationship between fatcors that are dependent and independant. Furthermore, the Table 4.4 is classified with the outcomes. This time, the correlation was a weak negative one existing between security and the benefits of implementing as appeared by the accompanying qualities; cc =-.081, N=403 and p=.105.
Now, since value of "p" is more than0.05, we thereby disapprove the theory and presume no correlation exists between the two previously mentioned factors. This implies one's conduct towards the average security status of the Digital Payment Systems investigation is emphatically dictated by the customers' expectation to utilize the benefits of the basic implementation of that same Digital Payment Systems now and in nearest future. Customers were still sceptical of the fact that there online transactions can still be hacked or sniffed by "Shoulder surfers" or even via "Phishing". Hence making it quite difficult to convince them that the Digital Payment System is very secure.

Now, similar result also was attained in June 2013 where Teoh et al. (2013) proved that securityas well as trust possess verdicts that are insignificant on the perception ofconsumerstowards payment usig electronic devices. Some researcher proposed that users should possess experience or at least comprehend how the payment via mobile or payment digitally functions.

4.5 Relationship Existing Between the Gender and the General Acceptance of DPS

In this section, we try to determine the differences the existing between the variables (Independent-gender and Dependent-general preference of DPS). Hence, An "independent t-test" is done so as to ascertain if the hypothesis satisfies each test.

H4: Gender has a positive effect on the general preference of DPS.

Table 4.5: Statistical difference between gender of participants and the general preference of DPS (factor: benefits)

Gender	N	Mean	SD	Mean Difference	t	p
Male	226	1.98	1.11	-.79	-1.37	.86
Female	177	2.77	1.03			

With reference the factor "benefits of DPS" shown inTable 4.5, Results exhibited no difference in significance (t = - 1.37, p=0.86) with outputs showing males (M=1.98, SD=1.10) females (M=2.77, SD=1.03) in Libya as shown on Table 4.5. Finalizing that the mean difference are most probably coincidental hence the hypothesisproves otherwise (not accepted).

According to some reseachers,their findings strongly indicated that gender is indeed a key factor and its impact in determines the intention of customers towards the general acceptance of the Digital Payment Systems (Zhang, 2012; Riquelme and Rios, 2013). Hence the results attained here by the researcher contradicts theirs.

Table 4.6: Statistical difference between gender of participants and the general preference of DPS (factor: trust)

Gender	N	Mean	SD	Mean Difference	t	p
Male	226	2.73	0.88	-.46	-3.14	.56
Female	177	3.19	0.87			

Now, looking at Table 4.6 above, the factor "trust" had results showing no difference in significance (t = -3.14, p=0.56) Outputs shows males (M=2.73, SD=0.88), females (M=3.19, SD=0.87). Finalizing from the results that depicts the two means differences are

most probably coincidental and not because of the differences in gender hence the hypothesis proves otherwise (not accepted).

In contrast to this result, the findings of some researchers strongly indicated that gender is indeed a key factor and its impact in determines the intention of customers towards the general acceptance of the Digital Payment Systems(Zhang, 2012; Riquelme and Rios, 2013). Hence the results attained here by the researcher contradicts theirs.

Table 4.7: Statistical difference between gender of participants and the general preference of DPS (factor: self-efficacy)

Gender	N	Mean	SD	Mean Difference	t	p
Male	226	2.00	0.99	-.89	-2.68	.15
Female	177	2.89	1.09			

Table 4.7 above depicts gender against the factor "self-efficacy of DPS). Results attained shows again male is significantly not different between males and females (t = -2.68, p=0.15) in the outputs with males (M=2.00, SD=0.99), females (M=2.89, SD=1.09). The results indicate no difference in significance between gender and general preference of DPS in Libya. Hence, concluding that both mean differences are most probably because of coincidence and not because of differences in gender hence, same hypothesis (won't be accepted).

Table 4.8: Statistical difference between gender of participants and the general preference of DPS (factor: ease to use)

Gender	N	Mean	SD	Mean Difference	t	p
Male	226	2.71	1.09	-.17	-1.59	.30
Female	177	2.88	0.97			

Refering to Table 4.8 above, Results as regards the factor "ease to use" attained shows that again, no difference between male and female (t = -1.59, p=0.30) males output (M=2.71, SD=1.09) females output (M=2.88, SD=0.97) in Libya. Hence, the means' differences is coincidental and not because of differences in gender. So same hypothesis won't be accepted.

Table 4.9: Statistical difference between gender of participants and the general preference of DPS (factor: security)

Gender	N	Mean	SD	Mean Difference	t	p
Male	226	2.43	0.83	-.05	-.68	.41
Female	177	2.48	0.59			

Refering to Table 4.9 above, Results attained with reference to the factor "security" shows that again, no difference in significance (t = -.68, p=0.41) with the males (M=2.43, SD=0.83), females (M=2.48, SD=0.59). Yet again, these clear outcomes displays significantly no change amid male and female and general preference of DPS in Libya. Hence, mean differences is coincidental not because of gender change and so it's rejected.

Table 4.10: Statistical difference between gender of participants and the general preference of DPS (Consumers' perception)

Gender	N	Mean	SD	Mean Difference	t	p
Male	226	2.23	0.90	-.36	-3.5	.17
Female	177	2.59	1.16			

Lastly but not the least, statistical analysis having the "customers' perception" factor was performed to ascertain if there exists a difference in significance between gender and the general preference of the digital payment system in Libya. In other-words, the independent t-test via main hypothesis earlier mentioned in "H_4" is performed to assess if the hypothesis is valid or not satisfying each parametric test. Referring to Table 4.10 above, Results attained depicts significantly no difference in the values (t = -3.5, p=0.17) outputs having males and females [(M=2.23, SD=0.90) and (M=2.59, SD=1.16)] respectively in Libya. In conclusion, the differences between the two means are accidental and not by gender differences. So, same hypothesis is rejected.

Hence, from all six factor results attained after the analysis with gender, we can strongly conclude that indeed gender does not positvely have an effect on the general preference of the digital payment system (DPS).

A very similar study was conducted by Van Slyke and his team in 2010 likewise Idris and Hsbollah in 2009. Their results showed little or no gender impact in the implementation and acceptance of new technologies and thus was been analysed and confirmed(Van Slyke et al., 2010; Hsbollah and Idris, 2009). However, further research in this is required because some researchers mentioned that men tend to use mobile technology more than their female counterparts.

So, according to the results attained in this study by the current researcher, it still shows that there is little or no significance in men and women adopting new technologies even though the men do have the upper and higher values than their female counterparts once it originates to the implementation of new technologies such as Digital Payment System (DPS) in Libya but their mean values speak a lot.

4.6 Relationship Existing Between the Age and the General Preference of DPS

In this section, analysis involving the age of the participants (customers) and the general preference of the digital payment systems.

H5: Age has a positive effect on the general preference of DPS.

Table 4.11: Pearson correlation between age of participants and the general preference of DPS

Correlations			
		Age	**General acceptance of DPS**
Age	Pearson Correlation	1	-.219**
	Sig. (2-tailed)		.000
	N	403	403

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

Again, in Table 4.11, the initiation of the idea of the relationship existing between the two factors was carried out via Pearson correlation with discovered outcome are arranged. There existed a weak negative relationship between the age of the partcipants and the general acceptance of the Digital Payment System showing values; cc =-.219, N=403 and p=.000. Furthermore, But p is less than or equal to 0.05, sothe hypothesis is approved/accepted and concluded that a relationship exists between both

variables.However, this relatively means that one's age when young can strongly influence the general acceptance of the digital payment system whereas as they grow older, they tend to lose interest on what importance the Digital Payment System can offer then they would show a negative attiude towards its general accpetance in general. In total, 146respondents between the ages 27-36 years had the highest age factor in the questionnaire.

Similar findings in the USA Dewan et al.(2009) as well as in Finland (Laukkanen and Pasanen, 2008) showed that mobile technology has taken a place in our world of technology today. The effect of education as well as age as a variable in terms of age control in his research has also been discussed by Venkatesh et al. (2003) and the significance of age to consumer perception and happiness about mobile technology. The two critical variables which affect consumer perception of a technology, Laukkanen and Pasanen (2008), discovered that the two are "gender" as well as "age". They showed that the consumer age has a beneficial effect on the perception of customers.

4.7 Relationship Existing Between Benefits of DPS and the Ease to Use

In this section, analysis involving the benefits of the DPS and its Ease of Use. This would enable us to see if the benefits indeed have a positive effect on its ease of use.

H6: Benefits of DPS has a positive effect on Ease to Use.

Table 4.12: Pearson correlation between Benefits of DPS and Ease to Use

Correlations			
		Benefits of DPS	**Ease to Use**
Benefits of DPS	Pearson Correlation	1	.739**
	Sig. (2-tailed)		.000
	N	403	403

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

To find out the relationship that exists between the two variables (Benefits of DPS and Ease to Use) alongside attained results are tabulated in Table 4.12 above. Observation shows a strong positive relationship exists as indicated by cc=.739, N=403 and p=.000. Additionally, since $p<0.05$, the hypothesis is accepted and hence we can say a relationship

that is positively strong between both variables with respect to the Digital Payment System (DPS) as far as there is an acceptance of this DPS in Libya generally is concerned.

Quite similar results were obtained in 2006 with reference to a researcher'sstudy has assessed the impact on customer perception of digital payments(Ezeoha, 2006). Primary data were used in the study. Questionnaires was given to 164 randomly selected customers from RedeemersUniversity. The obtained data was subjected to descriptive statistical analysis and multiple regression analyses. The results showed the customers ' perception (in-house and together) was positively and strongly affected by Internet banking, mobile banking, ATM and POS systems.

4.8 Relationship Existing Between Trust of DPS and the Customers' Perception

Here, we analyze the Trust of the DPS and its Customers' perception. This would enable us to see if the full trust of DPS has a positive effect on the perception of customers.

H7: Trust of DPS has a positive effect on the Customers' perception.

Table 4.13: Pearson correlation between trust of DPS has a positive effect on the perception of customers of DPS

Correlations			
		Trust of DPS	**Customers' perception**
Trust of DPS	Pearson Correlation	1	.487**
	Sig. (2-tailed)		.000
	N	403	403

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

Results attained in Table 4.13 depicts Pearson Correlation which again was executed so as to fully and extensively understand the idea of the relationship that exists between factor (trust) that is independent and the dependent varable (customers's perception). Hence, Table 4.13 above is classified with the outcomes. Again, a weak (almost moderate) postive correlation exists between Trust and the Customers's perception of implementing as appeared by the accompanying qualities; cc =.487, N=403 and p=.000. Now, since the

value of "p"is < 0.05, we acknowledge that hypothesis. Hence, verifying that there is a relationship between the two previously mentioned factors.

For instance, similar results was attained byDuane etal.(2014) that carried out an examination to examine from an organizational perspective, a number of factors affecting internet banking adoptionand digital payment systems as well as its use in Oman. The results of the study gave the positive significance that trust usually offer in such kinds of technology and adoption of internet banking in the Oman financial sector a realistic picture as to how beneficial it can be when services are satisfactory to consumers/customers.

4.9 Relationship Existing Between Self-efficacy of DPS and Benefits of DPS

In this section, analysis involving the benefits of the DPS and its Ease of Use. This would enable us to see if the benefits indeed have a positive effect on its ease of use.

H8: Self-efficacy of DPS has a positive effect on the Benefits of DPS.

Table 4.14: Pearson correlation between self-efficacyof DPS has a positive effect on the benefits of customers of DPS

Correlations			
		Self-efficacy of DPS	**Benefit of DPS**
Self-efficacy of DPS	Pearson Correlation	1	.378**
	Sig. (2-tailed)		.000
	N	403	403

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

Table 4.14 above basically displays in a tabular form, the initiation of the idea of the existing relationship between the two factors (Self-efficacy of DPS and Benefits of DPS). Analysis using pearson correlation was processed and the outcomes discovered are arranged There was a weak positive relationship between's the two referenced factors as spoke to by cc=.378, n=403 and p=.000. The value of "**p**" beingbelow 0.05, shows that we acknowledge the proposed hypothesis and infer that indeed there exists a weak positive correlation effect between the benefits of the DPS and its self-efficacy. Again, Sig. 2-tailed

indicates that there is significant relationship between both mentioned variables (Self-efficacy of the DPS and the Benefits of DPS).

Findings quite similar to this postive hypothesis was carried out by Pantea et al. (2018) investigated the smart technology effect on the dynamics of customers as well as theirexperience. Increased use of smart technologies by the customers is leads to recognition of influence on the shopping experiences of customers by practitioners. This basically proved that customers preferred smart technologies due to that fact that they can easily carry out transactions online (using Digital Payment Systems) via the easy use of this smart technologies. Hence, the result above in the table shows that indeed customers prefer these digital payment systems to its traditional counterpart.

4.10 Relationship Existing Between Trust of DPS and Security of DPS

In this section, analysis involving the Trust of the DPS and its Security. This would enable us to see if the trust customers have for the DPS would indeed have a positive effect on its security.

H9: Trust of DPS has positive effect on Security of DPS.

Table 4.15: Pearson correlation between Trust of DPS has positive effect on Security of DPS.

Correlations			
		Trust of DPS	**Security of DPS**
Security of DPS	Pearson Correlation	1	.441**
	Sig. (2-tailed)		.000
	N	403	403

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

Table 4.15 depicts Pearson Correlation which again was executed so as to fully and extensively understand the idea of the relationship that exists between factor (trust) that is independent and the dependent varable (Security of DPS). From what was observed, there existing between the two mentioned variables is a weak positive relationship represented by cc=.441, N=403 and p=.000. Additionally, knowing that $p<0.05$, the hypothesis is accepted and hence indicates a relationship positively weak between Trust of DPS and

Security of Use with respect to the Digital Payment System (DPS) as far as there is an acceptance of this DPS in Libya generally is concerned.

However, similar results was performed by Teoh et al. (2013) showing that both of themdo possess little or noimpact on the consumers' view towards payment via electronics. Previous reseachers as well suggested that users need to have experience or in worst case scenarios, possess skills onthe working principles of mobile payment systems Similarly, Wendy et al.(2013) carried implemented a study to ascertain basic causes that would influence the perception of customers towards mobile payments and trust as well as security was amongst the basic deciding factors. These joint results gave the positive significance that trust/security usually offered in such kinds of technology and adoption of mobile/internet banking in any organization, paints a realistic picture as to how beneficial it can be when services are even more than "satisfactory" to consumers/customers.

4.11 Relationship Existing Between Ease to Use and Self-efficacy of DPS

In this section, analysis involving the Ease to Use and the Self-efficacy of DPS. This would aid us in fully comprehending if DPS's ease to use has a positive effect on its self-efficacy.

H10: Ease to use has positive effect on Self-efficacy of DPS.

Table 4.16: Pearson correlation between Ease of Use has positive effect on Self-efficacy of DPS.

Correlations			
		Ease to Use	**Self-efficacy**
Self-efficacy	Pearson Correlation	1	.635**
	Sig. (2-tailed)		.000
	N	403	403

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

Again, in Table 4.16, results from the analysis using Pearson Correlation is tabulated to comprehend the relationship existence between the mentioned the variables in the table above. Table 4.16 above with the results indicates amoderate + correlation amid the use and the self-efficacy with reference to the Digital Payment System are represented with the

following values; cc =.635, N= 403 and p=.000. Furthermore, Since p <0.05, hypothesis is then accepted and hence concluded that between the two aforementioned variables, a relationship exists.

According to a study carried out by De Lunaet al. (2019), their study tried to compare the factors that defineconsumer acceptance SMS (Short Message Service), NFC (Near Field Communication) and QR (Quick Response) mobile payment systems with respect to how these applications can be easily used as well as its ability to aid interactions.In addition to determining the principal factors which influence the adoption of these mobile payment systems,a comprehensive review of the scientific literature has justified the development of a behavioural model that explains intention to use of mobile payments. Results attained proved to show that most customers were able to use the applications easily because of their knowledge of technology since the world is rapidly going towards the technology age.

4.12 Relationship Existing Between Experienceand the General Preference of DPS

Lastly but not the least of the hypothesis, "*One-way ANOVA*"is used to analyze the relationship basically existing between the years of experience (how long) acquired by customer via the use of the DPS and its general preference. This would enable us to see if the benefits' effect is positive on its ease of use.

H11: Experience has positive effect on the general preference of DPS.

Table4.17: One-way anova analysis between experience and the general preference of DPS

	Years of experience	**N**	**Mean**	**SD**	**F**	**Sig.**
General Preference of DPS	Less than 1 years	125	2.52	0.90	4.625	0.00
	2-4 years	143	1.99	0.89		
	5-9 years	56	2.92	1.03		
	Above 10 years	79	2.68	0.95		
	Total	403	2.53	0.94		

*****The mean difference is significant at .05 level

Table 4:17 depicts a one-way ANOVA analysis was performed between groups/variables (Experience and General preference of DPS) so as to explore if the number of years of experience has a positive effect on the general preference of the digital payment system. The years of experience of the customers was practically divided into four groups according to their years of experience in the organization (less than 1 year, 2-4 years, 5-9 years and above 10 years). As shown in Table 4.17,there was a statistically significant difference between years of experience and the general preference of the digital payment system ($F = 4.63$, $p = .000$; showing that $p<0.05$). Post hoc comparisons using Turkey HSD test indicated that the mean score for less than 1 year was ($M= 2.52$, $SD=0.90$), for 2-4 years of experience ($M=1.99$, $SD=0.89$), for 5-9 years ($M=2.92$, $SD=1.03$) and above 10 years of experience ($M=2.68$, $SD=0.95$). From outcomes, it can be seen that customers with 5-9 years of experience have highest mean score (2.92) than the rest in region of the general preference of the digital payment system which tells that the more the experience, the better or higher chances of acceptance/preference of a certain technology.

A similar study conducted by Enna (2019) tested service characteristics and customer perception in the container liner shipping industry since these customers have been using this industry for some years. Their research is mainly devoted to investigating key service characteristics in the container liner shipping (CLS) industry and its impact on customer perception. It maps service quality dimensions to a new set of service characteristics based on the latest priorities of container liner shipping companies. The data collected through online survey is regressed in a non-linear model. The results indicate that the top three service characteristics influencing customer perception are quality of customer service representative, quality of digitalisation and quality of sales representative in that order. Additionally, it was seen that because of these top qualities, customers preferred this shipping industry to others.

4.13 Summary of the Results Attained

The following Table 4.18 depicts the results attained by the researcher during the analysis for this study.

Table 4.18: Summarized results

Hypothesis	IV	DV	Supported	Correlation Coefficient (+/- Positive/Negative)	R value
H1	CuPe	EtU	Yes	Weak +	0.403
H2	BoDPS	CuPe	Yes	Weak +	0.312
H3	BoDPS	SecDPS	No	Weak -	-0.081
H4	Gender	GenPre	No	N/A	N/A
H5	GenPre	Age	Yes	Weak -	-0.219
H6	EtU	BoDPS	Yes	Strong +	0.739
H7	CuPe	TrDPS	Yes	Weak +	0.487
H8	BoDPS	SDPS	Yes	Weak +	0.378
H9	SecDPS	TrDPS	Yes	Weak +	0.441
H10	SDPS	EtU	Yes	Moderate +	0.635
H11	GenPre	Exp	Yes	N/A	N/A

From the table (Table 4.18),it can be noted that it denotations are associated with various itemslike the R value (cc), coefficient for correlation signs, Independent, Dependent Variables (IV and DV respectively) alongside their meanings to verify if they supported or otherwise.

Table 4.19: Correlation coefficient: Appropriate use and interpretation (Schober, Boer, and Schwarte, 2018)

R value	Description
-10	An ideal downhill [- negative] relationship
-.70	An ideal downhill [- negative] relationship
-.50	A moderate downhill [- negative] relationship
-.30	A weak downhill [- negative] relationship
0	No relationship
+.30	A weak uphill [+ positive] relationship
+.50	A moderate uphill [+ positive] relationship
+.70	A strong uphill [+ positive] relationship
+1	An ideal uphill [+ positive] relationship

Table 4.19 shows in details the explanations/descriptions of the R-value according to a group of researchers (Schobe et al., 2018). Correlation coefficients: Appropriate use and Interpretation.

The model for the research is seen in Figure 4.1, integrated with the r values of every dependent and independent variables. It can vividly be observed that9 of the total hypothesis were accepted then just 2 was rejected due to the fact that for one of them, the p value attained during the analysis was greated than 0.05 and then for the other, the statiscal difference gotten from the independent t-test carried out showed little or no significance between the variables in question during analysis. In other words, the supported hypothesis is tagged as being “Significant” while the rejected hypothesis is tagged as being “Non-significant”.

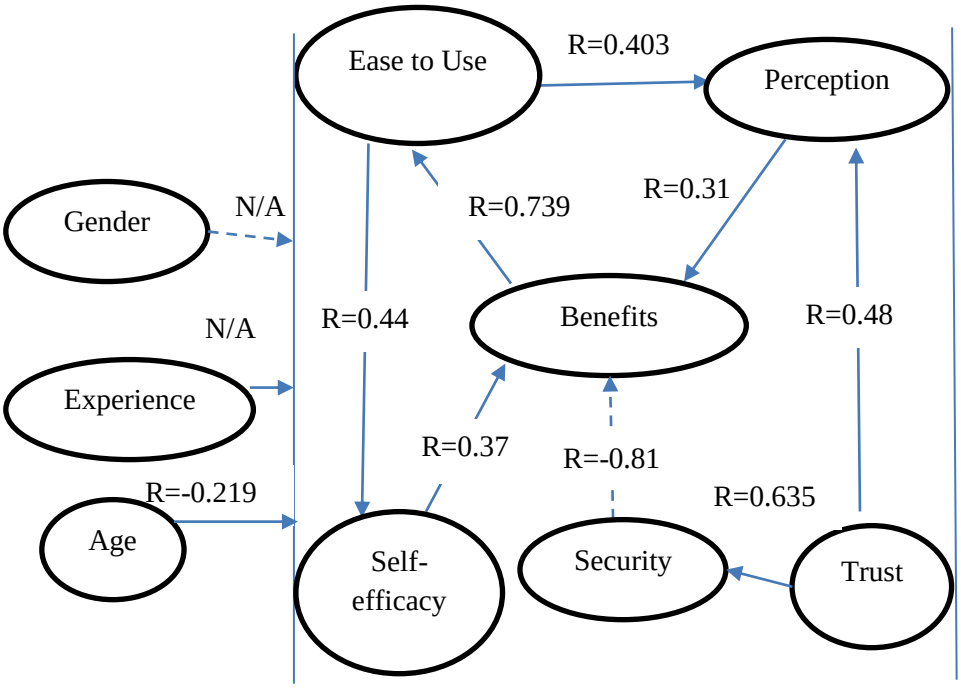
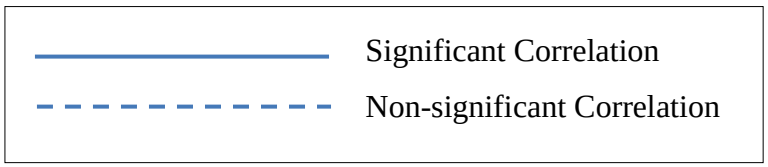


Figure 4.1: Research model integrated with Correlations results



CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

The section finalizes it by providing a summary of the whole research, highlighting signifcance of the result, hence indicating genuine decisions backing them. In the same vein, some information for future research purposes is recommendedby the researcher that would basicallyguide to researchers in the future that may in one way or another, prefer to work in the study's area.

5.1 Conclusion

Presentation of the general investigation of the general adoption of the Digital Payment Systems in Libya (as a case study). In total, two cities were given or provided questionnaires that was meticulously put together by the researher to fill. With the aid of most of completed questionnaires, analysis of the data filled by the customers (respondents) was executed and results with valid and detailed explanantions was provided by the researcher. The following verdicts were deduced from the results and has been proved.

- From the analysis of the results attained, the "strongest correlation" existed between the Digital Payment System's benefits and its ease to use.Results attained showed the customers' perception was positively and strongly affected by Internet banking, mobile banking, ATM and POS systems. In as much as the user can easily make use of these Digital Payment Systems, they prefer it over the traditional methods.
- Basically, there was just one Moderate correlation amongst the variables (dependent and independent) which was between the self-efficacy and ease to use of the digital payment system but there were more weak positive correlations that existed between the listed variables.
- A weak but almost moderate correlation existed only between the Trust of DPS and the Customers' perception of the Digital Payment Systems alongside the true Perception attained by customers while using the Digital Payment System and its basic Ease to Use. Now for the customers, it is paramount that they must be

satisfied with services provided by certain applications. The positive results attained based on use as well as the benefits of the DPS was able to convince the researcher that indeed the adoption of the Digital Payment System in Libya has come to stay.

- There were just two hypothesis rejected due to the fact that it didnt meet its expected result/verdict. First one had to do with the Benefits and Security of DPS. The security of some online transactions these days aint so guaranteed and this made customers a bit dissatisfied with the fact that security can have a positive influence of the benefits of DPS. Yes, if there are benefits then perhaps it can be accepted but its security isn't as guaranteed 100% as its benefits. The results obtained by the researcher as regards this proved that. It stood out to be the weakest of all the correlations. The second hypothesis had to do with the Gender of participants and the general preference of DPS. Results obtained from using "independent t-test" on the variable proved that gender does not really affect the preference of these kinds of technology.
- Another quite weak and negative correlations has to do with the age bracket of the customers/customers (respondents) and its effect on the general preference of the Digital Payment System.Although the hypothesis was accepted, it showed quite a weak correlation that existed between the afore-mentioned variables. It relatively meant that one's age when young can strongly influence the general acceptance of the digital payment system whereas as they grow older, they tend to lose interest on what importance the Digital payment System can offer then they would show a negative attiude towards its general accpetance in general.

5.2 Recommendations

Quite a number of limitations were stated in the introductory part of this study by the researcher. These limitations to this study require further investigation by other researchers that may want to seek future researcher on this study. Hence, recommendations are listed below and shown be taken into consideration for a fruitful future research:

- Basically this research's questionnaire was limited to just a two cities by circulating the questionnaires amongst customers of banks. It must have kind of limited more

positive results going forward in this research, hence, it is adviced that for future research, more cities should be added to the list so as to get more results for analysis from respondents.

- Time was also a major constraint in this study, hence, it should be noted that for future research, the study should proceed on time so as to adequately and meticulously gather results or responses from respondents for detailed analysis.
- The researcher for future purposes should endeavour to explore other sectors like going to schools as well (universities or even high school) because the world has gone technological in almost all dimensions now and surely customers in these schools can provide mush needed responses to the adoption of Digital Payment Systems in Libya.

REFERENCES

Abukhzam, M., & Lee, A. (2010) Factors affecting bank staff attitude towards e- banking adoption in Libya.*The Electronic Journal on Information Systems in Developing Countries,*42(1), 1-15.

Afsharpour, M., & Pahlevani, M. (2013). review and prioritization of payment tools and equipment of e-banking using Analytical Hierarchy Process (AHP). *Seventh National Conference and the First International Conference of Ecommerce and Economy, Tehran*.

Alghamdi, R., Drew, S., & Al-Ghaith, W. (2011) Factors influencing e-commerce adoption by retailers in saudi arabia: a qualitative analysis, *The Electronic Journal on Information Systems in Developing Countries*, *47*(1), 1-23.

Antwi, S. K., Hamza, K., & Bavoh, S. W. (2015) Examining the Effectiveness of Electronic Payment System in Ghana: The Case of e-ZWICH in the Tamale Metropolis. *Research Journal of Finance and Accounting*, 6(2), 163-177.

Anyanwu, A. C., Ezugwu, A. E., and Abdullahi, S. E. (2012) Electronic Payment System (EPS): Facilitating the Development and Adoption in Nigeria. *International Journal of Computer Science Issues*, 9(2), 462.

Ayo, C.K., & Ukpeke, W.I. (2010), Design of a secure unified e-payment system in Nigeria: A case study. *African Journal of Business Management*, 4 (9), 1753 – 1760.

Baddeley, M. (2004) "Using E-Cash in the New Economy: An Electronic Analysis of Micropayment Systems", *Journal of Electronic Commerce Research*, 5(4), 239-253.

Bourreau, M., & Valetti, T. (2015). Competition and interoperability in mobile money platform markets: What works and what doesn't?.*Communications and Strategies, 99,* 11-32.

Cao, T. K., Dang, P. L., & Nguyen, H. A. (2016). Predicting consumer intention to use mobile payment services: Empirical evidence from Vietnam. *International Journal of Marketing Studies*, 8(1), 117- 124.

Cauana, A., & Malta, M. (2002) 'Service Loyalty- The effects of service quality and the mediating role of customer satisfaction'. *Journal of Marketing Research*, 36(7/8), 811-828.

CBL. (2014). Central Bank of Libya. Retrieved on 10 Jun ,2019 from https://cbl.gov.ly/en/market-operations/

Changsu, K., Wang, T., Namchul, S. & Ki-Soo, K. (2010) An empirical study of customers‟ perceptions of security and trust in E-payment systems.*Electronic commerce research and applications*, 9(1), 84-95.

Chen, X., & Li, S. (2016). Understanding continuance intention of mobile payment services: an empirical study. *Journal of Computer Information Systems*, *57*(4), 287-298.

Cheung, C. M., & Lee, M. K. (2005). Consumer satisfaction with internet shopping: a research framework and propositions for future research. In *Proceedings of the 7th international conference on Electronic commerce* (pp. 327-334).

Coulson, A. (1999). "Electronic Commerce: the ever Evolving Online Marketplace". *IEEE Communications Magazine*, 37(9), 58-60.

Dalvand, M. R., Nejat, A., Nouraee, M., Jahromi, A. M., & Zohdi, M. H. (2014) Feasibility study of implementing electronic commerce in petrochemical industries with a case study. *International Journal of Business Information Systems*, 17(2), 248-259.

De Luna, I. R., Liébana-Cabanillas, F., & Muñoz-Leiva, F. (2019). Mobile payment is not all the same: The adoption of mobile payment systems depending on the technology applied. *Technological Forecasting and Social Change*, *146*, 931-944.

Duane, A., O'Reilly, P., & Andreev, P. (2014). Realising M-Payments: modelling consumers' willingness to M-pay using smart phones. *Behaviour & Information Technology, 33*(4), 318-334.

Enna, H. (2019). Service characteristics and customer satisfaction in the container liner shipping industry. *The Asian Journal of Shipping and Logistics*, 35(1), 24-29.

Ezeoha, A. (2006, April). Regulating Internet Banking in Nigeria, Problem and Challenges-Part 2. *Journal of Internet Banking and Commerce, 11*(1), 363-365.

Fabian, S., Christian, S., & Bernd, S. (2015). Advance payment systems: Paying too much today and being satisfied tomorrow. *International Journal of Research in Marketing.*32(3), 238-250

Fathian, M., Shafiea, M., & Shahristani, M. (2009). The impact of e-banking implementation in increasing customer satisfaction. *International Journal of Business Information Systems*, 3(1), 148-179.

Gao, L., & Waechter, K. A. (2015). Examining the role of initial trust in user adoption of mobile payment services: an empirical investigation. *Information Systems Frontiers,* 19(3), 525-548.

Gefen, D., & Straub, D. (1997). Gender difference in the perception and use of e-mail: an extension to the technology acceptance model. *MIS Quarterly, 21*(4), 389-400.

Ghasemi, S., & Radgohar, H. (2010). The necessity of using new electrronic payment methods in Iran. *Third National Conference on Computer Engineering and Information Technology, Hamedan*, pp 356-360.

Hasan, I., Schmiedel, H., & Song, L. (2012) Returns to retail banking and payments. *Journal of Financial Services Research*, 41(3), 163-195.

Heng, S. (2007) E-commerce settles for established payment systems: Limited market potential for innovative payment systems, *Deutsche Bank Research E-conomics Working Paper*, (62), 56-98.

Hiram, T., Yusman, Y., & Lona, L. (2016). Intention to Use Mobile Payment System: A Case of Developing Market by Ethnicity. *Journal of Procedia- Social and Behavioral Sciences*,224, 368-375.

Ifinedo, P. (2012) Facilitating the Intention to Expand E-business Payment Systems Use in Nigerian Small Firms: An Empirical Analysis. *E-business–applications and Global Acceptance*,(19), 58-60.

James K.C., Amrita , B., & Jackhuu, B. (2015). Services innovation impact to customer satisfaction and customer value enhancement in airport. *Journal of Technology in Society*. 43, 219-230.

Jayaram, J., & Prasad, P. N. (2013) Review of E-banking System and Exploring the Research Gap in Indian Banking Context. *International Journal of Innovative Research and Development*,2(2), 407-417.

Jayawardhena, C., & Foley, P. (2000), 'Changes in the banking sector- the case of internet banking in the UK', *Internet Research*, 10(1), 19-31.

Jennifer, G., Kenneth, L. K., & Jason, D. (2003) Environment and policy factors shaping global e-commerce diffusion: a cross country comparison,*The information Society*, 19(1), 5-18.

Kaplan, A., & Pucciarelli, F. (2016). Competition and strategy in higher education: Managing complexity and uncertainty. *Business Horizons*, *59*(3), 311-320.

Khalili, H., Ebrahimi, S., & Nalchigar, S. (2012). Evaluation of E-payment systems in Iran using analytic hierarchy process. *African Journal of Business Management*, *6*(19), 83-90.

Killian, D., & Kabanda, S. (2017). Mobile payments in South Africa: middle income earners' perspective. In *Proceedings of the Twenty First Pacific Asia Conference on Information Systems*, (p. 53).

Laukkanen, T., & Pasanen, M. (2008). Mobile banking innovators and early adopters: how they differ from other online users? *Journal of Financial Services Marketing, 13*(2), 86-94.

Lisa, Y. C., & Wu, W. N. (2017). An Exploration of The Factors Affecting Users' Satisfaction With Mobile Payments. *International Journal of Computer Science & Information Technology*,9, (3), 97-105.

Liu, C., & Arnett, K. (2000). "Exploring the Factors Associated with Web Site Success in the Context of Electronic Commerce", *Information and Management*, 38(1), 23-33.

Lwoga, E. T., & Lwoga, N. B. (2017). User acceptance of mobile payment: the effects of user-centric security, system characteristics and gender. *The Electronic Journal of Information Systems inDeveloping Countries, 81*(1), 1-24.

Munnukka, J. (2007). Characteristics of early adopters in mobile communications markets. *Marketing Intelligence & Planning, 25*(7), 719-731.

Mutia, S., Mahadzirah, M., & Wan, Z.W. (2015) E-Commerce Service Quality on Customer Satisfaction, Belief and Loyalty: A Proposal. *Mediterranean Journal of Social Sciences*, 6(2), 260.

Ogochukwu, A. I., Sunday, S. A., & Mustapha, T. B. (2018) Customers' satisfaction of electronic payment systems in the purchase of insurance products in nigeria. *Journal of Management & Marketing*, 16(2), 180-191.

Özkan, S., Bindusara, G., & Hackney, R. (2010). Facilitating the adoption of E-payment systems: theoretical constructs and empirical analysis. *Journal of Enterprise Information Management, 23*(3), 305-325.

Rampton, J. (2016) The evolution of the mobile payment.Retrieved on July 5,2019 from https://techcrunch.com/2016/06/17/the-evolution-of-the-mobile-payment/

Raza, S. A., & Hanif, N. (2013) Factors affecting internet banking adoption among internal and external customers: a case of Pakistan. *International Journal of Electronic Finance*. 1 (7), 82-96.

Rosen, C. (2001) The e-buck stops here, Information Week, (840), 55-57.

Roycroft, T., & Anantho, S. (2003) Internet Subscription in Africa: policy for a dual digital divide" *Telecommunications Policy*, 27(1-2), 61-74.

Schaupp, L.C., & Bélanger, F. (2005). A conjoint analysis of online consumer satisfaction. *Journal of Electronic Commerce Research,* 6(2), 95

Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: appropriate use and interpretation. *Anesthesia & Analgesia,* 126(5), 1763-1768.

Sekaran, G. (2000). Understanding reliability analysis. *International Journal of Educational Technology in Higher Education, 17*(1), 20-28.

Shaaban, E., & Alireza, H. (2009) A framework for evaluating electronic commerce adoption in Iranian organizations *International Journal of Information Management* 29, (1), 27-36.

Shaw, N. (2014). The mediating influence of trust in the adoption of the mobile wallet. *Journal of Retailing and Consumer Services, 21*(4), 449-459.

Shin, J. I., Chung, K. H., Oh, J. S., & Lee, C. W. (2013) The effect of site quality on repurchase intention in Internet shopping through mediating variables: The case of university students in South Korea. *International Journal of Information Management*, 33(3), 453-463.

Sumanjeet, S. (2008). Emergence of payment systems in the age of electronic commerce: The state of art. *Global Journal of International Business Research, 2*(2), 17-36.

Taghizadeh, H., & Sepehri, A. (2013). Reasons of public reluctance to use e-banking card (Case Study: customers of Mellat bank). *Economics and Business,* 79-88.

Tahir, M., & Guru, P. (2017). What factors determine e-satisfaction and consumer spending in e-commerce retailing?. *Journal of Retailing and Consumer Services*,*39*, 135-144.

Takele, Y., & Sira, Z. (2013) Analysis of factors influencing customers‟ intention to the adoption of e-banking service channels in Bahir Dar city: an integration of TAM, TPB AND PR. *European Scientific Journal*, 9(13).

Tennyson, O., & Mercy, O.E. (2014), E-payment system and its sustainable development in the Nigerian economy. *European Journal of Business and Management,* 6 (8), 48-56.

Teoh, W., Chong, S., Lin , B., & Chua, J. (2013). Factors affecting consumers' perception of electronic payment: an empirical analysis. *Internet Research, 23*(4), 465-485.

Tigre, P., & Dedrick, J. (2004) E-commerce in Brazil: local adaptation of a global technology *Electronic Markets,*14(1), 36-47.

Vatiero, M. (2009) Understanding Power. A Law and Economics Approach. *Journal of Economic Issues*, 46(1), 259.

Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2013). *User acceptance of information technology: Toward a unified view*, *27*(3), 425-478.

Veit, D., Clemons, E., Benlian, A., Buxmann, P., Hess, T., Kundisch, D., & Spann, M. (2014) *Business models. Business & Information Systems Engineering*, 6(1), 45-53.

Wendy, M. T., Siong, C. C., Binshan, L., & Jiat, W. C. (2013). Factors affecting consumers' perception of electronic payment: an empirical analysis. *Internet Research, 23*(4), 465-485.

Xin, H., Techatassanasoontorn, A. A., & Tan, F. B. (2013). Exploring the influence of trust on mobile payment adoption. *Pacific Asia Conference on Information Systems, 143* (pp. 1-17).

Yan, H., & Yang, Z. (2015). Examining mobile payment user adoption from the perspective oftrust. *International Journal of u-and e-Service, Science and Technology*, *8*(1), 117-130.

Yang, Z., & Fang, X. (2004). Online service quality dimensions and their relationships with satisfaction; A context analysis of customer reviews of securities brokerage services. *International Journal of service Industry Management, 15*(3), 79-85.

Yu, H.C., Hsi, K.H., & Kuo, P. J. (2002) Electronic payment systems: an analysis and comparison of types, *Technology in Society*, 24(3), 331-347.

Zhou, T. (2014). An empirical examination of initial trust in mobile payment. *Wireless personalcommunications*, *77*(2), 1519-1531.

APPENDICES

APPENDIX 1

QUESTIONAIRE

Customer Perception Towards the Digital Payment

Dear participant

The questionnaire is a part of a Master thesis study and it aims to investigate the customer perceptıon towards the dıgıtal payment.

Responses to this questionnaire are voluntary and would be kept confidential. Information will be used for educational purposes only. Please read each question carefully and choose the most convenient answer for you. You are required to answer all questions, mark(✓) as appropriate in the boxes.

Your participation would be greatly appreciated.

Contact : SULIMAN A SALEM BEN GHRBEIA (20174864@std.neu.edu.tr)

Thesis Supervisor : Prof. Dr. FEZILE ÖZDAMLI

Near East University – Department of Computer Information Systems. Nicosia, North Cyprus This study aims to verify if customers are indeed satisfied with the concept of digital/online payments for easier monetary transactions

SECTION A: Demographic information

1.What is your age?.....

2.Gender: Male ☐ Female ☐

3.Level of Study: High School ☐ Bachelor ☐ Masters ☐ PhD ☐

4.How long have you enjoyed the experience of Digital payment?

Less than 1 year ☐ 2 – 4 years ☐ 5 – 9 years ☐ Above 10 years ☐

5.a. have you ever used digital money (e.g Bitcoin,Ethiriu Yes ☐ No ☐

5.b. If yes, what type of the digital money have you used?

BitcoinEthereum ☐ MoneroX ☐ MRothers ☐ specify ……

SECTION B :

FACTOR 1: Benefits	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. It saves my time and cost for using an Electronic payment system					
2. Electronic payment system is convenient for me					
3. The billing and transaction process are accurately handled					
4. Speed of Electronic payment system flow is faster than traditional payment system					
5. I find that it is easier to conduct my financial transaction					
FACTOR 2: trust	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6. I trust on the ability of an Electronic payment system to protect my privacy					
7. I trust on Electronic payment system that will not lead to transaction fraud					
8. Confidential information is delivered safely to customers					
9. I feel the risk associated with Electronic payment system is low					
FACTOR 3: self- efficacy	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
10. I will only use an Electronic payment system if I heard it before					
11. The comments of other people will influence my intention to use an Electronic payment system					
12. I will use an Electronic payment system when my friends introduce it to me					

FACTOR 4: Ease to use	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13. The structure and contents of the web site are easy to understand					
14. Learning to use an Electronic payment is easy					
FACTOR 5: Security	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
15. I am concerned about my security when using an Electronic Payment system					
16. Matters of security have significant influence on me in using an Electronic payment system					
FACTOR 6: Consumers' perception towards Electronic payment system	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17. An Electronic payment system is better than traditional payment channels					
18. Electronic payment system is much more efficient than traditional payment channels					
19. I will choose the trusted Electronic payment system to make transaction					
20. I feel that a user-friendly Electronic payment system will influence me to adopt the system					

Thank you for participating

APPENDIX 2

Ethical Approval Letter

YAKIN DOĞU ÜNİVERSİTESİ

BİLİMSEL ARAŞTIRMALAR ETİK KURULU

06.05.2019

Dear Suliman Ben Ghrbeia

Your application titled **"Customer Perception Towards the Digital Payment"** with the application number YDÜ/FB/2019/62 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assoc. Prof. Dr. Direnç Kanol

Rapporteur of the Scientific Research Ethics Committee

Direnc Kanol

Note: If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this documen

APPENDIX 3

Plagiarism Report

turnitin

Assignments | Students | Grade Book | Libraries | Calendar | Discussion | Preferences

NOW VIEWING: HOME > THESIS-CIS > SULIMAN BEN GHRBEIA

About this page

This is your assignment inbox. To view a paper, select the paper's title. To view a Similarity Report, select the paper's Similarity Report icon in the similarity column. A ghosted icon indicates that the Similarity Report has not yet been generated.

suliman ben ghrbeia

INBOX | NOW VIEWING: NEW PAPERS

Submit File | Online Grading Report | Edit assignment settings | Email non-submitters

	AUTHOR	TITLE	SIMILARITY	GRADE	RESPONSE	FILE	PAPER ID	DATE
	Sulaman Ghrbeia	chp6	0%	-	-		1239013019	02-Jan-2020
	Suliman Ghrbeia	abstract	0%	-	-		1239012417	02-Jan-2020
	Suliman Ghrbeia	chp5	0%	-	-		1239012994	02-Jan-2020
	Suliman Ghrbeia	chp1	3%	-	-		1239012644	02-Jan-2020
	Suliman Ghrbeia	Chp3	4%	-	-		1239012887	02-Jan-2020
	Suliman Ghrbeia	Chp2	5%	-	-		1239012688	02-Jan-2020
	Suliman Suliman	Allthesis	7%	-	-		1239013107	02-Jan-2020
	Suliman Ghrbeia	chp4	8%	-	-		1239012959	02-Jan-2020