Joao Pedro Esteves Coelhoso

FACTORS INFLUENCING MOBILE MARKETING ACCEPTANCE IN HIGHER EDUCATION STUDENTS IN THE UNITED ARAB EMIRATES

Fernando Pessoa University

Porto 2019

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I, hereby attest the originality of this work

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Thesis to be presented to Fernando Pessoa University in order to obtain the PhD qualification of Doctor of Information Sciences –specialization in Marketing, Advertising and Public Relations, under the supervision of Professor Fernando Bandeira and Professor Antonio Cardoso

ABSTRACT

Technology advancements in mobile communication has seen a rapid rise in recent years. Likewise, the use of mobile technologies has proven to be of extreme importance in consumer's life. The main goal of this study is to investigate and identify the impact of marketing activities on the acceptance of mobile marketing practiced by higher education students. Assisted by the Technology Acceptance Model (TAM) and Uses and Gratifications Theory, this study tests a conceptual model that explain factors influencing mobile marketing acceptance. The study was conducted in Federal Higher Education Institutions in the UAE. A descriptive, explanatory research that used a quantitative survey methodology was adopted. This study surveyed 402 higher education students using a probabilistic stratified sampling method. The overall findings revealed that risk acceptance, providing information, sharing content, accessing content, perceived value and personal attachment have a positive influence in mobile marketing acceptance, and it validates a new model using Structural Equation Modelling. Furthermore, this study highlights the current state of mobile marketing utilization along with preferred types of services used. This research has the potential to benefit companies to create better mobile marketing strategies, in which they can incorporate within their product and services and recommends actions to create a more effective mobile marketing campaign that benefits both consumers and organizations.

***Keywords*:** Technology Acceptance, Mobile Marketing, Perceived Value, Sharing Content, Accessing Content, Personal Attachment, Providing Information, Risk Acceptance.

RESUMO

Os avanços tecnológicos na comunicação móvel tiveram um rápido aumento nos últimos anos. Da mesma forma, o uso das tecnologias móveis provou ser de extrema importância na vida do consumidor. O principal objetivo deste estudo é investigar e identificar o impacto das atividades de marketing na aceitação do marketing móvel praticado por estudantes do ensino superior. Assistido pelo Modelo de Aceitação de Tecnologia (TAM) e pela Teoria de Usos e Gratificações, este estudo testa um modelo conceitual que explica os fatores que influenciam a aceitação do marketing móvel. Foi adotada uma metodologia de pesquisa quantitativa, descritiva e explicativa auxiliada pelo uso do questionário. O estudo foi realizado em instituições federais de ensino superior nos Emirados Árabes Unidos. Este estudo pesquisou 402 estudantes do ensino superior usando um método probabilístico de amostragem estratificada. As descobertas gerais revelaram que a aceitação de riscos, fornecimento de informações, compartilhamento de conteúdo, acesso a conteúdo, valor percebido e vinculação pessoal influenciam positivamente a aceitação do marketing móvel e validam um novo modelo usando a Modelagem de Equações Estruturais. Além disso, este estudo destaca o estado atual da utilização do marketing móvel juntamente com os diferentes tipos de serviços mais utilizados. Esta pesquisa tem o potencial de beneficiar as empresas na criação de melhores estratégias de marketing móvel para que possam ser incorporadas nos produtos e serviços e recomenda ações para criar uma campanha de marketing móvel mais eficaz que beneficie tanto os consumidores quanto as organizações.

***Palavras-chave*:** Aceitação de Tecnologia, Marketing Móvel, Valor Percebido, Compartilhamento de Conteúdo, Acesso a Conteúdo, Apego Pessoal, Fornecimento de Informações, Aceitação de Risco.

RÉSUMÉ

Les progrès technologiques dans la communication mobile ont augmenté rapidement ces dernières années. De même, l'utilisation des technologies mobiles s'est avérée d'une importance capitale dans la vie du consommateur. L'objectif principal de cette étude est d'étudier et d'identifier l'impact des activités de marketing sur l'acceptation du marketing mobile pratiqué par les étudiants de l'enseignement supérieur. Assistée du modèle d'acceptation technologique (TAM) et de la théorie des usages et des gratifications, cette étude teste un modèle conceptuel qui explique les facteurs qui influencent l'acceptation du marketing mobile. L'étude a été menée dans des établissements d'enseignement supérieur fédéraux des Émirats Arabes Unis. Une recherche descriptive et explicative utilisant une méthodologie de recherche quantitative a été adoptée. Cette étude a examiné 402 étudiants de l'enseignement supérieur utilisant une méthode probabiliste d'échantillonnage stratifié. Les conclusions générales ont révélé que l'acceptation des risques, la fourniture d'informations, le partage de contenu, l'accès au contenu, la valeur perçue et les liens personnels influencent positivement l'acceptation du marketing mobile et valide un nouveau modèle utilisant la modélisation par équation structurelle. En outre, cette étude met en évidence l'état actuel de l'utilisation du marketing mobile ainsi que des différents types de services les plus utilisés. Cette recherche pourrait aider les entreprises à créer de meilleures stratégies de marketing mobile afin de les intégrer à des produits et services, et recommande des actions pour créer une campagne de marketing mobile plus efficace, bénéfique pour les consommateurs et les organisations.

Mots-clés: Acceptation de la technologie, marketing mobile, valeur perçue, partage du contenu, accès au contenu, pièce jointe personnelle, fourniture d'informations, acceptation des risques

DEDICATORY

Dedicated to four little stars…

Antoninha Fausto

Fernando Azevedo

Joao Coelhoso

Helder Silva

That guide me from above!

ACKNOWLEDGEMENTS

I would like to thank first and foremost to my wife. For all the headaches I gave you throughout this journey, I couldn't have done it without you and without your support. I love you and our little (bump).

Secondly, to my Mum Filomena, that despite all barriers in life, fought hard to put me in a position where I could succeed. I will always be in debt with you and I hope one day I can be as good as father as you were as a mother.

A very big thank you, to my supervisor Prof. Dr. Fernando Bandeira, that during this hard 5 years has kept me grounded and strove, guided me to the completion of this thesis. I need to thank as well, Prof. Dr. Antonio Cardoso that despite not being my direct supervisor has helped me and assist me during some hardships of this thesis.

Lastly, to all my colleagues in HCT that have taken the time to check my work and helped me to make it here.

As per the words of one of my greatest mentors, Dr. Woodrow Sears, "If you don't ask, you don't get", that simple quote as led me to this stage and "Brick walls are there to separate those who want it, from those that really want it", for those times where motivation was lacking and for those many times that you are thinking of giving up, remember that!

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LIST OF ABREVIATIONS

AC-Accessing Content

AGFI-Adjusted Goodness of Fit

ATB-Attitude toward Behavior

ATU-Attitude toward Using

AMOS- Analysis of moment structures

BI-Behavioral Intention

BIU-Behavioral Intention to Use

CA-Cognitive Absorption

CFA-Confirmatory Factor Analysis

CPM-Cost per Thousand

CTA- Calls To Action

C-TAM- Combined Technology Acceptance Model

CTR – Click through Rate

DTPB-Decomposed Theory Planned Behavior

EFA-Exploratory Factor Analysis

GDP-Gross Domestic Product

GMI-Global Media Insight

GFI- Goodness of fit

GPS-Global Positioning System

HMSAM-Hedonic Motivation System Adoption Model

HMS-Hedonic Motivation System

ICT-Information and Communication Technology

IDT-Innovation Diffusion Theory

IT- Information Technology

LUM-Lazy User Model

MLR- Multiple Linear Regression

MMA- Mobile Marketing Association

MMA-Mobile Marketing Acceptance

M-Marketing- Mobile Marketing

NFI-Normed Fit Index

P2P- Peer to Peer

PA-Personal Attachment

PBC-Perceived Behavior Control

PDA- Personal Digital Assistants

PEOU- Perceived Ease of Use

PI-Providing Information

PU- Perceived Usefulness

PV-Perceived Value

RA-Risk Acceptance

RMSEA-Root Mean Square Value

SC-Sharing Content

SCT-Social Cognitive Theory

SEM- Structural Equation Modeling

SME'S – Small and Medium Enterprises

SU-Subjective Norm

TAM – Technology Acceptance Model

TPB- Theory of Planned Behavior

TRA- Theory of Reasoned Action

UAE – United Arab Emirates

UTAUT-Unified Theory of acceptance and use of technology

UN-United Nation

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1 CHAPTER I INTRODUCTION

1.1 Introduction

This research study aims to scrutinize various factors affecting mobile marketing acceptance by higher education students. With the development of technologies such as high-speed wireless network and penetration of mobile phones in the global marketing and advertising market, business organizations across the globe are becoming increasingly interested in using mobile phones as a tool for marketing.

Despite the increase in interest towards mobile marketing, there is still scant research available on this topic with respect to the United Arab Emirates. An attempt through this research has been made for bridging this gap. A detailed analysis of various factors that persuade consumers to accept marketing using mobile phones is done throughout the study. This chapter presents the background of the study, its problem statement, as well as, the research question and objectives that guided this research. The significance of the study and its contribution are also defined. The chapter encompasses the motivation behind the choice of this topic, and it presents the hypothesis with the respective conceptual model. To conclude, a summary of all the chapters is presented along with a conclusion.

1.2 Background

Penetration of mobile phones has been explosive since the mid 1990's, particularly in the developed nations. In the year 1997, approximately 215 million people were making use of mobile phone technology. By the year 2001, the number increased to 961 million and to 1.16 billion by the year 2003 and it continues to rise to the date (Bauer *et al.* 2005). Mobile phones have become so deeply engraved in the lives of people that it has changed the manner of communication among them quite dramatically. This technology has made people across the world easily reachable. For instance, penetration and acceptance of mobile phones in Asian countries have nearly reached 100% (Al-alak & Ibrahim, 2010).

Mobile phones have become omnipresent and have made a revolutionary contribution in the acceptance of mobile commerce. The reason for this can be attributed to the fact that mobile phones allow performance of marketing activities tailored to the requirements, tastes and preferences of customers. Mobile marketing also facilitates targeting customers as, this technology allows one-to-one communication with the customer.

Although mass communication advertising tools, such as television advertisements reaches a wide customer range, those are not considered as impactful as the mobile marketing technique in modern times (Alam, Faiz, & Aftab, 2015). It is also important to highlight that mobile technology has also evolved leaps and bounds over the last decades (Leppäniemi & Karjaluoto, 2008). The journey has been clunky, from wireless phones to high technology smart phones that are peppered with a number of amazing, features, innovations and discoveries. Today, with the 3G and 4G mobile technologies, users can do almost everything with their smartphones rather than just sending the SMS or making phone calls phones (McCarthy, 2013).

Today, smartphones can be used for browsing the web, reading a book, checking the weather along with listening to music and buying clothes and food (McCarthy, 2013). In such an environment, every business wants to practice the techniques associated with mobile marketing, as this technology has changed the way in which people interact with each other (Leppäniemi & Karjaluoto, 2005).

Moreover, the proximity and ubiquity of the mobile phones demonstrate how mobile phones are used and will be used in the future for different purposes (Leppäniemi & Karjaluoto, 2008). In addition to the above, mobile phone technology is considered an attractive platform, which facilitates easy communication and interaction with existing, as well as prospective customers by various brand managers.

The launch of Apple's iPhone and the mobile platform of Google has increasingly focused on drawing the attention of industry and consumer towards using mobile phones for undertaking marketing communication. Reports indicate that business organizations worldwide are planning to shift an increased number of resources towards a marketing platform offered by mobile phone technology (Richtel, 2006). Forecasts reveal that by the end of the year 2020, the spending attributed to mobile marketing via the internet will reach $247.36 billion (Statista, 2017). The year to year forecasts of spending on mobile internet advertising from the year 2015 to the year 2020 is depicted in the following image:

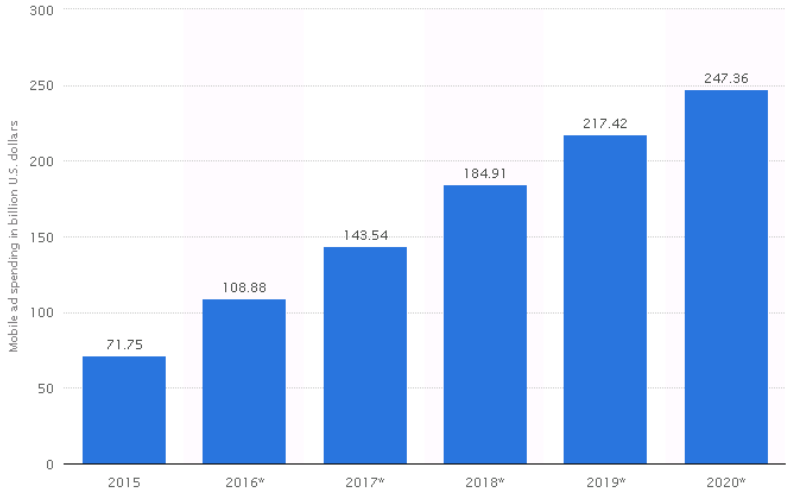

Figure 1- Mobile internet advertising spending worldwide from 2015 to 2020 (in billion U.S. dollars)

(Source: Statista, 2017. para. 3)

The above figure depicts the increase in the amount being spent on mobile marketing by the business organizations across the world. From this, it can be inferred that with the increase in budget for mobile marketing, the acceptance of consumer usage with respect to mobile marketing will also increase. As a result of this, the business organizations have increased their focus on marketing using mobile channels.As per one of the reports titled 'We are social report' based on 30 countries with regards to internet penetration, the UAE stands in first position.

The internet penetration rate of the UAE is approximately 96%, as per the report. An inference that can be drawn from this information is that people of the UAE spend more time on the internet than pursuing other activities (Vekaya, 2016). The internet can be accessed through various devices such as laptops, palmtops, mobile devices and personal computers.

As per the report, "*average daily internet use via a tablet or PC is 4 hour 25 min, while average daily Internet use via a mobile phone is 3 hour 37 min*" (Omair, 2016). This means the UAE citizens are increasingly using mobile phone devices, which provide the marketers an opportunity to attract more and more customers towards products and services offered by them. The image below depicts the time spent with media by the UAE residents:

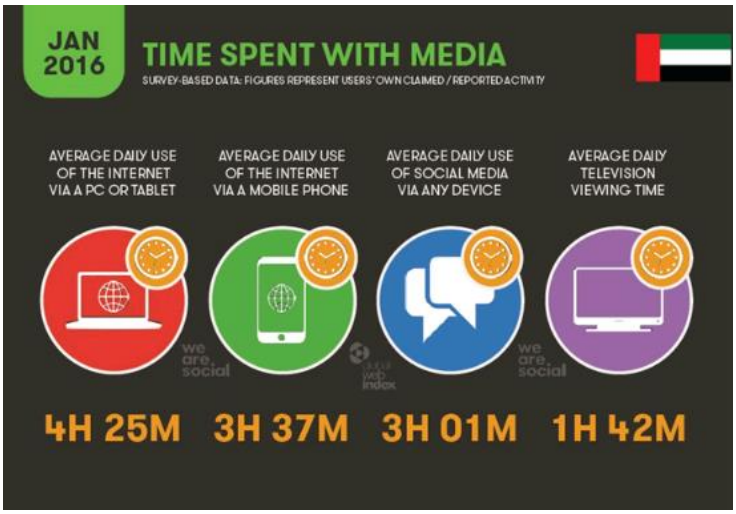

Figure 2 - Time Spent with Media January 2016 report

(Source: Omair, 2016, para. 2)

As per the same report, mobile penetration is growing at an extremely fast pace. Approximately, 71% of the total population use mobile messenger, while 62% of the population watch videos. The above percentage of mobile activities depict that people are increasingly using mobile devices for variety of means. The percentages are illustrated in the figure below:

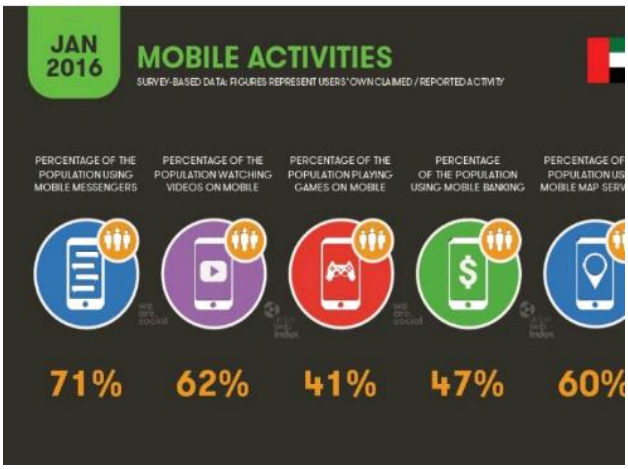

Figure 3- Mobile Activities report January 2016

(Source: Omair, 2016, para. 4)

Moreover, the increase mobile devices usage has also seen an increase in undertaking e-commerce activities. As per the report, 62% of the total people of the UAE purchased an a product or acquired a service online and 40% of this purchases were made via mobile devices. Although this percentage is less than the purchases made through laptops (which is 53%), it can be inferred that the usage of mobile devices for undertaking e-commerce activities is increasing at an elevated rate in the UAE.

Figure 4- E-Commerce by device January 2016 report

(Source: Omair, 2016, para. 6)

Figure 4 portrays the increase in usage of mobile phone technology in the UAE. A Large number of international brands such as MTV, Ford, Burger King, Procter and Gamble, and various other brands have also launched a number of programs related to mobile marketing. This enable the customers when searching for the nearest location of restaurants, or to receive coupons and vouchers when accessing new information. The increase in the use of SMS, and the development of strong mobile networks and platforms with regards to mobile marketing have paved a way for a new method of interaction between marketers and consumers (Sultan *et al.* 2009).

Thus, in this research, factors which influence the acceptance of mobile marketing practices by higher education students in the UAE are further examined. Furthermore, 72% of the smart phone users in the UAE are less than 34 years of age (Go-Gulf, 2013). Hence, this research concentrates on students pursuing higher education, since the mobile phones penetration is higher among this segment. This particular group are deemed more involved and savy in technology and as result their contribution in making mobile technology popular is quite large.

In sum, there's a limited amount of knowledge and understanding when it comes to manage mobile marketing and create more opportunities for companies to reach consumers in a more efficient way (Chatterjee, 2002).The use of TAM (technology acceptance models) and gratifications theory have been used by Sultan *et al.* (2009) and Al-Meshal & Almotairi (2013), so this study will consider both theories to develop a conceptual framework that leads to acceptance of mobile marketing by its users.

1.3 Problem Statement

Technology advancements in mobile communication has seen a rapid rise in the development of new and improved platforms for facilitating interaction between consumers and marketers of various brands. Mobile phones have become deeply engraved in each and every section of of society and the marketing field is no exception to this. Marketers have started concentrating upon migrating from traditional methods of marketing to mobile marketing, because these platforms offer a more personalized form of communication (Kotler, 2016).

Mobile marketing enables an open interaction between consumers and marketers which, makes it easy for the marketers to engage people and attract them towards the products and services offered by them (Buaer *et al.* 2005). However, according to Bauer *et al.* (2005) implementation of mobile marketing techniques must be carefully done, because any flaw in the implementation might lead to failure of the entire marketing strategy.

There are various factors which must be considered before undertaking marketing with the help of mobile devices. One such factor is framing such strategies for marketing which are location specific or consumption specific. With reference to mobile marketing, the student segment is the one which is increasingly using mobile phone devices as the most preferred tool of communication. This segment might feel empowered, since they have direct access to information, social activities and mobile based content (Sultan *et al.* 2009).

Another challenge facing marketers is the extent to which the consumers will accept the efforts made in mobile marketing. Many companies such as Adidas and ESPN, have undertaken various efforts for launching mobile marketing campaigns, only to find little success, and the overall outcomes were quite disappointing (Rohm *et al.* 2012).

Thus, the problem statement of the research is to identify the extent to which the higher education students are willing to accept the efforts made by the marketers in the field of commercial mobile marketing. In addition to this, factors which influence consumer acceptance of mobile marketing are also required to be identified.

1.4 Research Questions

According to Alon (2009), a research question is a critical first step in the research process, and its main goal is to guide the research in a clear, consistent and logical argument. The primary research question that will be addressed throughout this research is, "What are the factors that influence higher education students' acceptance of mobile marketing?". The importance of this research question arises from the growing numbers of mobile marketing users in the UAE, specifically in the higher education students segment. Companies are also increasing their spenditure in mobile marketing campaigns, and it becomes vital to understand the drive that lead to acceptance of users in order to generate better mobile marketing strategies. This question will pave the way to verify how factors such providing information, risk acceptance, accessing content, sharing content, personal attachment and perceived value impact the acceptance of mobile marketing generated content.

1.5 Research Objectives

Research objectives refer to what is intended to be achieved by the end of a research, and it guides the activities that are require to be completed (Alon, 2009). Based on the main question of this research ""What are the factors that influence higher education students' acceptance of mobile marketing?", the objectives that this research intends to accomplish are as follows:

1-To identify which factors influence higher education students' acceptance of mobile marketing.

2-To identify the relationship between the factors influencing mobile marketing activities and mobile marketing acceptance.

3- To test the conceptual model developed, that was based on existing literature on mobile marketing using technology acceptance model and uses and gratification theory.

1.6 Significance of Research

The significance of conducting research on this topic is three fold. Firstly, the research is based on the conceptual model developed by Sultan *et al*. (2009) and Al-Meshal & Almotairi (2013); adding one aditional variable to the model that was initially purposed by Sultan *et al.* (2012). This will help in investigating the impact of marketing activities on the acceptance of mobile marketing practiced by higher education students. The influence is investigated in terms of mobile marketing usage by students for providing information, content sharing, accessing required content, perceived value, risk acceptance and mobile marketing acceptance.

Secondly, this research examines additional demographic and socio-economic factors that haven't been previously investigated in other studies. This examination seeks to provide increased understanding of these factors in influencing acceptance of mobile marketing by consumers indirectly. Thirdly, the research involves an examination of acceptance of practices related to mobile marketing within the context of the UAE. Since little research has been previously conducted in the UAE, this study aims to be beneficial in identifying the factors affecting the acceptance of mobile marketing among students studying in universities or colleges. Futhermore, it will give an overview of the current state of mobile marketing utilisation in the country and contribute to a better understanding of this particular segment. This research has the potential to benefit companies to create better mobile marketing strategies that they can incorporate within their product and services.

1.7 Contributions of the research

This research contributions are:

1-It provides a bigger picture of mobile marketing aspects in general and in the UAE in particular.

2-It provides a contribution to the literature body of knowledge in relation to mobile marketing and its acceptance.

3-It contributes to the existing knowledge of the literature on Technology Acceptance Models.

4-It illustrates the impact and effects of factors that influence the acceptance of mobile marketing, specifically in the UAE.

5-It presents the factors affecting acceptance of mobile marketing by a specific segment (higher education students). By testing a new theoretical framework, the outcome of this study can be useful for companies to enable better decision making strategies of mobile marketing use, as well as provides a clear picture of the current state of mobile marketing acceptance by its users. Finally this could serve as pionner study for Mobile marketing acceptance in this area.

1.8 Scope of the study

The study targets only Higher education students specifically that use mobile marketing services, and focuses predominantly on the factors that influence their acceptance. The reason for this choice arises from the fact that this population segment is more technology savvy and are more likely to be using mobile marketing services.

1.9 Motivations

The motivation behind undertaking this research is linked to a personal passion for mobile marketing technology. On a personal level, from an early age, consumer behaviour was always something that intrigued me and the deeper I studied marketing the more interesting it became for me. Understanding motivations and influences that lead people to a certain behavior was always present in my undergraduate work and it lead me to study different areas of psychology and business. At the same time, information technology was also another big passion of mine, mostly in relation to mobile phones and activities that enhance user experience and facilitate acquiring information while generating personalized content.

On a professional level, this research will allow me to further strengthen my knowledge and understanding of marketing activities and to further enhance my role as a lecturer as well as contribute to further career advancement. Since 2008, I have worked in marketing companies and for the past nine years, I took on a new challenge and became a marketing instructor in the UAE, where I teach and coordinate a bachelor program in Digital Marketing in one federal University.

This PhD will give me the possibility to attain a position as Assistant Professor in Marketing, while also allowing me to contribute to the specific area I teach. This research intends to contribute to the field of mobile marketing acceptance in this region. I have worked with dozens of organizations to further establish partnerships between educational settings and industry related workplacement for my students. As a result of this, I realized that organizations have undertaken a huge effort and allocated a great part of their budget to incentivate their users to take on new forms of mobile marketing services, create better content and improve users' experience.

The challenge faced by those companies has motivated me to study this topic with the addition of mobile marketing and technology acceptance fields. Since little research has been conducted in this region since Al-Meshal & Almotairi (2013) regarding this topic, this thesis will hopefully shed some light on new perpectives and help improve the knowledge regarding consumers' behavior related to the acceptance of mobile marketing. This will in turn benefit not only companies, but also add scientific contribution to this particular field of study.

1.10 Theoretical framework

According to Hussey & Hussey (1997), a theoretical framework is a collected group of theories and models that are analyzed through the literature and allows for the graphic conceptualization of the model that a researcher has theorized. The aim is to establish and comprehend the relationships among different factors that are important to the research problem. In general, the theoretical framework paves the way to discuss the interrelationships between the variables that a researcher has considered for a study.

Once the theoretical framework is created, hypothesis can be formulated in order to examine if the theory created is valid (Sekaran, 2003). The term "Theoretical Framework" is used throughout this research interchangeably. According to Sekaran (2003), researchers use the term theoretical framework, conceptual framework or research model in the same light. In this study, the proposed research model (Figure 5.), comprises different types of variables (dependent and independent).

The implementation of these determinants, as well as their definition and use in other researches was adressed in the literature review (see Chapter 2), under the title "Factors influencing mobile marketing acceptance". A more specific analysis to those factors was also provided during the development of constructs and scales for dependent and independent variables linked to the hypothesis presented aboved (see Chapter 3).

In this research, six constructs (Personal attachment, Risk Acceptance, Sharing Content, Accessing Content, Perceived value, and Providing information) are employed as independent variables. As discussed in the Literature review (see Chapter 2), Sultan *et al.* (2009), Sultan *et al*. (2012) and Bauer *et al.* (2005) defined these constructs and expected them to influence the acceptance of mobile marketing. The codes used for Personal Attachment was (PA), and Risk Acceptance (RA) Sharing content (SC), Accessing Content (AC), Perceived Value (PV) and Providing Information (PI).

Finally one construct (Mobile Marketing Acceptance) was used as the dependent variable in this study. According to Sultan *et al.* (2009), Sultan *et al.* (2012), Al-Meshal & Almotairi (2013) Mobile Marketing Acceptance is the determinant factor for users to embrace the use of mobile marketing by companies. Mobile Marketing Acceptance was coded as MMA. Based on the proposed research model, the hypothesis created will test if these determinants have a significant influence on the mobile marketing acceptance by higher education students (see Chapter 3.).

1.11 Research Hypothesis

The following are the hypothesis that this research will test. The hypothesis were guided by the research question of the study and their creation assisted by previous literature conducted in the field of mobile marketing and technology acceptance models from Sultan *et al.* (2009), Sultan *et al.* (2012) and AlMeshal & Almotairi (2013).

H1- There is a significant relationship between Risk Acceptance, Personal attachment, providing information, Accessing content, sharing content, Perceived value and Mobile marketing acceptance.

H2- There is a significant relationship between Risk acceptance and Mobile marketing acceptance.

H3- There is a significant relationship between Providing Information and Mobile marketing acceptance.

H4 -There is a significant relationship between Sharing Content and Mobile marketing acceptance.

H5- There is a significant relationship between Acccesing Content and Mobile Marketing Acceptance.

H6- There is a significant relationship between Personal Attachment and Mobile marketing Acceptance

H7- There is a significant relationship between Perceived Value and Mobile marketing Acceptance.

1.12 Conceptual Model

The research model proposed by the author has as base the conceptual models developed by Sultan *et al.* (2009), Sultan *et al.* (2012) and Al-Meshal and Almoitairi (2013), both studies have employeed these factors in their research separately conducted in the United States, China and Saudi Arabia respectively. This study intends to use the determinants of their studies in a unified model. The factors extracted from their research have as based Technology Acceptance Models and Gratification theories, the research hypothesis above are conceptualized in the Figure 5 below, where each arrow represents the relationship of each factor leading to mobile marketing acceptance.

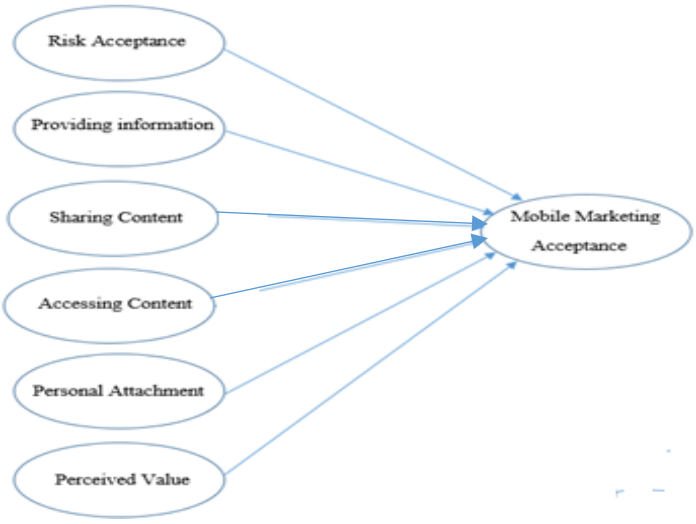

Figure 5- Proposed Research Model

(Made by the author)

The conceptual model presented in Figure 5, shows personal attachment, providing information, risk acceptance, sharing content, accessing content and perceived value, leading to mobile marketing acceptance. The arrows represent the hypothesis mentioned above showing that those factors have a significant influence on mobile marketing acceptance. The variables used in previous studies mentioned above have as base the technology acceptance model (behavior intent to perform an activity, in this case mobile marketing acceptance) and gratification theories (personal motives that influence the behavior intent).

1.13 Thesis Structure

This study was structured in the following manner:

Chapter 1 - Introduction

This chapter provides an introduction to the research, which highlights the factors which prompted the researcher to choose the topic related to consumer acceptance of mobile marketing practice. The problem statement, research significance, research objectives and research questions are addressed in detail in this specific chapter.

Chapter 2 - Literature Review

Based on the information gathered in the opening chapter, the literature review is developed next. The information for gaining an in-depth theoretical knowledge is collected with the help of various journals, reports, books, artciles in periodicals and websites. Hence, this chapter comprises a literature review on Technology Acceptance Models, mobile marketing advantages and disadvantages, internet, E-commerce and factors influencing mobile marketing acceptance.

Chapter 3 - Research Methodology

This chapter provides detailed information regarding the research methodology employed to conduct the research in a systematic manner. Research methodology explains the manner in which data is collected, so that no ambiguity arises while conducting the research. In other words, this chapter details the research design, methods of data collection and sampling techniques used, as well as constructs, codes, validity and reliability of the instruments used.

Chapter 4 - Results and Data analysis

In this chapter, the outcomes of the study are evaluated and analysed. The data derived from the questionanire is evaluated using statistical tools such as excel and SPSS, which ensures checking for reliability of the data collected and also facilitates accurate analysis. The use of graphics, descriptive analysis, Pearson correlations, Regression analysis, Cronbach alpha, Amos (factors analysis, confirmatory and Structure Equation Models), At the end, the hypothesis of the study are tested and the discussion of findings presented.

Chapter 5 - Conclusion and Recommendations

This chapter includes the final part the research study along with the main conclusions of the results and recommendations to improve the existing knowledge on the topic. Plus, it also enumerates the managerial implications, limitations and offers scope for future research.

2 CHAPTER II-LITERATURE REVIEW

2.1 Introduction

The internet has become the way of life for most of us and e-commerce has seen an unprecedented growth in the last decade (Duffet, 2017). Mobile marketing has also increased in popularity along with e-commerce (Coomar *et al.* 2016). As a consequence, the United Arab Emirates (UAE) shows one of the highest mobile penetration rates in the world (UAE government, 2015). The United Arab Emirates has a smart phone penetration rate of 61%, while 39% of those that own smart phones in the UAE have used them to make a purchase online. On average 70% of smart phone users in the country said that they have noticed ads at least once when they were using their phone (Selvi, 2015).

With such large adoption numbers growing everyday it is clear that mobile marketing is already a great source of business revenue. Despite this fact, only few companies are effectively marketing on mobile phones in the Middle East, which means there are some large opportunities in this market just waiting to be harvested (Gulf News, 2018). The investigation of mobile marketing acceptance, particularly in terms of its success or failure has been primarily post trial (Al-Zoubi, 2016). Thus, prior to the implementation of m-marketing strategy, the elements that influence users' acceptance including acceptance factors, limitations and requirements, have to be examined first.

The present research attempts to examine the factors influencing the acceptance of mobile marketing by higher education students within the context of the United Arab Emirates. Therefore, this present chapter attempts to review various literature related to mobile marketing and its acceptance. This chapter starts by reviewing the body of knowledge of literature regarding marketing in a general prespective and it spreads to cover concepts and definitions of mobile marketing, theories, conceptual models and factors influencing mobile marketing acceptance. There is also a in depth review of literature on Technology Acceptance Models, that serve as structural element of the conceptual model applied in this study. At the end, the research gap is identfified, enhancing the importance of the study.

2.2 Literature Review

A literature review consists in gathering and analyzing sources of information regarding any topic a researcher intends to investigate (Aveyard, 2010). The information can be gathered from a vast array of sources such as: articles, websites, conferences, scientific publications, case studies, thesis or books to name a few. A literature review can be conducted in different spectrums thus, it can be argumentative (to establish a different point of view), historical (from a historical perspective), methodological (that analysis the methodologies used), systematic (which uses pre-existent evidence regarding a specific research question), and theoretical (that analysis the corpus of theories available specific to a topic or issue), (Walsh & Downe, 2005).

This study focuses on a systematic literature review approach, which consists in identifying, and summarize evidences from different sources, so it become possible to address a specific research question.

The purpose of conducting this particluar literature review is to provide an overview on the major research aspects and topics done in the realm of mobile marketing, as well as on consumer's behavior by review theories from previous studies to act as basis for this new research. According to Aveyard (2010), a literature review allows to examine the current state of knowledge of a research topic, while creating an opportunity to carve space for the topic we intend to use. Furthermore, conducting a literature review helps to identify, select and analyze different theoretical approach (es) that can be used on a particular topic or question. While, it also helps to verify different methodologies, data collection tools used, guide the author in future directions of the topic and help in delimitating the study (Walsh & Downe, 2005). In sum, this literature review served to acquire deeper understanding of the research topic, by using different types of sources such as online libraries, specialized books, articles and journals.

It creates a detailed process where the researcher reviews sources diagonally about a concept, leading to a deeper analysis of other topics, theories or authors. The literature review was developed in two main aspects, firstly to identify and formulate the research object, where marketing aspects, internet and mobile marketing were discussed, and secondly to review technology acceptance models that have contributed to develop the research design (methodology and scales adopted) and data analysis. This chapter starts with a broad analysis on marketing and internet terms (in order to frame the theory), and moves narrowly to acceptance theories (that serve as base of this research).

2.3 Marketing

The term marketing can be defined based on two perspectives, social and managerial. From a social perspective, the term marketing can be defined as "*a societal process by which individuals and groups obtain what they need and want through creating, offering, and exchanging products and services of value freely with others"* (Kotler & Keller, Marketing management , 2009, p. 22).

On the other hand, from a managerial perspective, marketing can be defined as the skill of selling services and products, maintaining and attracting consumers by satisfying their needs and wants. Thus, on an overall basis, marketing can be defined as a process which involves planning the conception, its execution, pricing of the products, their promotion and distribution of goods, services and ideas for creating and facilitating exchanges which are capable to satisfy the goals of the organizations as well as individuals (Kotler, 2003).

The managerial approach to marketing was adopted sometime during the 1950's, when it became difficult for various business organizations operating mainly in the USA to sell the manufactured products. This approach to marketing offers the perspective of managers towards marketing their products and services.

However, prior to the 1950's the norm of marketing was to use customers for the mass production products undertaken by business organizations. However, sometime during this period, a new idea began to be applied by the marketers which related to customer orientation (Alam, Faiz, & Aftab, 2015).

The idea of customer orientation gained a stronger relevance those days and suggested that business organizations should not be working towards using the customers for the benefit of the organization. Rather business organizations must concentrate upon becoming skillful enough to convince customers to purchase their products (Stone & Desmond, 2007). Thus, marketing of products and services offered by business organizations to their customers depend upon the market segment for which their products are suitable to and also on perceived customer value (Kotler & Amstrong, 2011).

2.3.1 Importance of Marketing

Marketing is one of the most essential factors for the success of a business organization. It is the process of introducing the services offered and products produced by an organization to the public at large (Stone & Desmond, 2007). Marketing helps an organization to make the existing customers aware of the new products and services introduced by the organization and attract potential customers to such products and services. Various benefits of marketing to business organizations include an increase in sales; enhancing the reputation of a business organization, giving a boost to healthy competition, and helping in the exchange and movement of goods (Kotler, 2001).

Raising awareness about products and services attracts customers to the organization and also results in delivering word-of-mouth information to the other competitors. Now, when the information related to the prices of products reach other organizations producing the same products, they tend to lower the prices or keep it at the same level as that of the organization. This helps in removing any sort of monopoly in the publicity of the products and services.

However, all this would not have been possible without employing marketing strategies (Balasubramanian, Peterson, & Jarvenpaa, 2002). Marketing also helps a business organization in enhancing its reputation in the market as well as in the minds of customers. The success of a business organization depends significantly upon the reputation it holds in the market. When the products and services of an organization are able to satisfy the needs and requirements of customers, the reputation of the organization increases. The market value of an organization is based upon efforts made by the organization in marketing (Kotler & Keller, 2009).

Marketing not only helps in spreading the information to the prospective and intended customers, but also spreads information to the intended market and also in the setting up of competitive prices. Furthermore, the consumers benefit from such information, as they will be aware of the most reasonable prices for the products they require. Without marketing, competition cannot persist and this will lead to decline of new companies in the market.

Thus, this will hamper the promotion of a healthy market environment (Lorette, 2013). Marketing also facilitates the movement of goods and services from organization to ultimate consumers. This increases the visibility of the business organization within the market place. Furthermore, since marketing increases customer awareness regarding products and services, the produced goods tend to move faster towards the customers which ultimately results in increasing the level of satisfaction of consumers (Lorette, 2013).

2.3.2 Evolution of Marketing Techniques and Change in Consumer Behavior

Marketing techniques before the introduction of social media in 1999, and internet technology in general were quite different. Several reasons have contributed towards this change in marketing methods and the manner of handling marketing communication.

Prior to the development of these technologies communication with customers was very difficult (Alam, Faiz, & Aftab, 2015). However, after the invention of internet technology, it has become easier to communicate with all customers instantly. During the earlier times, business organizations were involved in selling products and services to ultimate customers, but couldn't engage instantly with them. The lack of awareness and fierce competition when compared to today, made consumers buy products and services without an extensive amount of research. On the other hand, companies lacked the technological tools available today to interact and spread information in a more dynamic way (Kotler & Amstrong, 2011).

In the earlier times, the idea to undertake communication with customers was not widely used by business organizations while marketing products or services. One of the reasons behind such a belief was that since there were few alternatives available in those times, people did not think much before buying a product, (consumers were not so technologically savvy and did not research as much as they do today before engaging in a purchase). The second misconception behind the belief that marketing of products was not essential came from the fact that it was quite easy for organizations to develop brand loyal customers. This means the customers used to buy products from a particular brand only, irrespective of the various options available to them (Alam, Faiz, & Aftab, 2015).

Today, with the increasing globalization of products and accessibility of markets, the number of products available has exploded and competition has become more fierce, making loyalty much more difficult to achieve, since customers have way more choices and less time to acquire products and services. Marketing was the result of an increase in competition among various business organizations and diversification of the habits of customers. As example, according to Kotler and Keller (2009, p. 141), "*in 1960, Procter & Gamble could reach 80% of U.S. women with one 30 second Tide commercial aired simultaneously on only three TV networks: NBC, ABC, and CBS*", while on the other hand, at present *"the same ad would have to run on 100 channels to achieve the same marketing feat*".

Thus, change in the behavior of consumers is one of the most important factors that has changed the manner of undertaking marketing activities by business organizations (Fill, 2011). Apart from the change in consumer behavior, business organizations were forced to change the manner of marketing in which consumers obtain relevant information. Gaining requisite for necessary information at a fast pace has become possible in present times and such information can be derived from various sources such as the internet (Fill, 2011). The perception of customers has drastically changed and people now believe more in the comments by anonymous people rather than believing in the information being provided by business organizations.

Customers are not able to trust the information provided by companies, because they think organizations are trying to manipulate them into purchasing products produced. This has given rise to the idea of a two-way channel of marketing communication. Interaction with customers has gained significance and this is the reason for drastic change in marketing mediums and communication (Fill, 2011).

2.4 Importance of the Internet

In this context, the emergence of internet and ecommerce came to revolutionize the way consumer select and acquire products and services (Batinic, 2013). According to Mishra & Kumar (2009) the internet is one of the advents that has changed the lives of people. Since its introduction in the 1960's, Internet is recognized as one of the most effective media of information dissemination, allowing interaction between individuals, despite of their geographic limitations.

An internet user has access to a number of services such as file transfer, e-mails, multimedia, shopping, and access to vast sources of information (Mishra & Kumar, 2009).According to Batinic (2013) the internet is used in a number of business areas and that includes marketing.

Marketing is known as an integral part in the context of conducting business. The Internet is a crucial part of media planning and internet technology is the most important communication channel between the demand and offer of business industries (Baltnic, 2013). The internet provides opportunities to marketers to successfully sell and promote the products and services according to the needs and demands of customers. It can be further concluded that internet technologies help marketers to create and identify unique services along with improving efficiency associated with developing unique and value added services (Batinic, 2013). According to Berisha-Shaqiri (2015) the growth and evolution of information technology has been tremendous in the last 50 years.

An individual could not envisage a business or project today without using information technology. Information technology and the internet has facilitated the lives of people along with reducing the time and cost of certain activities. Using the internet also facilitates the process of producing goods and services, and is not only an important medium of facilitating communication between people but, it has also become one of the most effective ways in creating business models. Moreover, the internet is a strategic source in the context of promoting services and work or expanding into new markets.

Companies that use the internet and information technology "*optimally are more efficient in conducting business activities, along with gaining a competitive advantage"* (Berisha-Shaqiri, 2015, p. 73). In hindsight, it can be said that the internet has impacted the lives of the people positively, despite drawbacks caused by security and various policies. The internet has also evolved from simply connecting and information sharing between point A and point B, to allow e-commerce (Berisha-Shaqiri, 2015). The appearance of Web 2.0 allowed internet and websites to pass from static elements of information (Web 1.0), to emphasize content to a more user-generated content, allowing a more dynamic and integration of systems and platforms (O'reilly, 2005). Making the term usability (ease of use) and interoperability (allowing the connection of new systems and integration of new technologies into web pages), really important for consumer to interact, collaborate and create a sense of virtual

community. Here, the static element disappears giving origin to a mashup of applications and movement all in the one place. Additionally, Oreilly (2005), mentioned that the term Web 2.0 is not just about a revolution in technical specifications but, rather it changes the way webpages are operationalized, designed and allow consumers to use it in a more dynamic way. Web 2.0 became of vital importance to marketing in the context of including social networks, apps, and platforms and giving consumers a more vivid interrelation of features they use in their daily life.

Web 2.0 can be seen as an update or second version of the internet, in which users actively participate in its development and expansion by uploading new content. Another basic aspect is the collaboration and interaction between users, that is the defining element that makes the web into what is known today – the Social Web (Martínez-López *et al.* 2016). Web 2.0 is the current state of online technology, as it compares to the early days of the Web, characterized by greater user interactivity and collaboration, more pervasive network connectivity and enhanced communication channels (Tech Target, 2018).

However, there are some activities that have not changed regarding the internet, such as email (one of its first features), further internet is used by people for entertainment, e-commerce and information search. In the future, there will be a continuous rapid increase in broadband speed and broadband penetration. The speed will further improve according to the needs of the customers. Furthermore, users will also increase their dependence on the internet for a wide range of activities (O'reilly, 2005). It can be said that people are reshaping the internet and in turn the internet is reshaping the social and informational universe (Ahuja, 2015). While some scholars such as Nath *et al.* (2014) even argue that we are close to the development of a new paradigm the so called web 3.0, where computers will generate new content rather than humans (the so called internet of things), where information will be categorized and stored so perfectly that artificial intelligence mixed with semantic will allow a computer to interpret data and develop content.

The so called web 3.0 still lacks a complete and well accepted definition among scholars, while the benefits of the internet are commonly agree in the community, ranging from its convenience, ease of use, or to the changes in the relationships and arrangements in the workplace. Moreover, the height of surveillance both by businesses and the government will also grow (Ahuja, 2015).

2.4.1 The Internet and E-commerce

Internet is the origin of e-commerce and it is also a collection of computer network that helps in exchanging data with the help of common software standard. The power of the internet must be harnessed for the success of the organizations (Andrews, Goehring, Hui, Pancras, & Thornswood, 2016). The internet has a vital role in the sales and commerce of companies. Websites are developed by companies and used as one of the most important tools for sales and marketing (Andrews *et al.* 2016). The internet helps in reaching to the customers who are otherwise difficult to reach and also helps in improving the organization by streamlining the orders along with tracking those orders (Yannopoulos, 2011).

In this context, the internet acts like a channel that can be used to advertise products, sell products along with connecting with customers (Chaffey, 2007). The Internet helps in increasing sales and customer base of companies and it plays a crucial role in decreasing costs associated with renting, stocking and it helps in keeping the startup costs low (Andrews, Goehring, Hui, Pancras, & Thornswood, 2016). E-commerce is the using of global internet for the purpose of purchasing and selling goods and services (Chaffey, 2007). Moreover, e-commerce offers new capabilities and technology to businesses. E- Commerce can be defined as sharing of business information, maintenance of the business relationships along with conducting business transactions with the help of a telecommunication network (Yannopoulos, 2011).

The way in which companies conduct business and communicate with their employees, customers and vendors has significantly changed over the past decade. The widespread internet and e-mail access have radically changed the way companies do business and communicate with their employees, vendors, and customers. E-commerce is a web-based system that involves features such as online purchases, order tracking systems and card approval systems etc. These features provide opportunities to sell products and services online efficiently (Chaffey, 2007).

Furthermore, e-commerce helps marketers to access global markets along with offering the ability of creating and reaching to new customers. Moreover, e-commerce also helps in dramatically reducing customer service and distribution costs (Yannopoulos, 2011). The internet has transformed the overall structure of the competitive landscape.

In sum, there's a conversion from physical space to digital space and hence, the sources of business value will also be displaced. The internet in the commerce and sales sector has provided benefits that can be categorized into two categories- marketing benefits and customer benefits. Marketing benefits improved customer analysis, product analysis, market analysis, low cost of advertising, and it is easy to create as well as maintain the client database. There are also certain customer benefits such as the dissemination of information on a wide scale, effective interpersonal communication, access to advice and assistance from the experts (Chaffey, 2007).

Presently, e-commerce is booming, as example: in 2016 there was a growth of 10% in online retail sales. According to e-commerce experts, the revenues from e-commerce will reach up to $4 trillion by the year 2020 (Tech, 2016). Mobile marketing appearance comes then from the need to penetrate into the online market and maximize e-commerce and marketing interaction from companies with their customers using new mobile technologies.

2.5 Mobile Marketing

Mobile marketing has gained more and more prominence in the last few years. Mobile marketing has been defined as *"the use of wireless media as an integrated content delivery and direct-response vehicle within a cross-media marketing communications program",* (Marriott, 2006, p. 22). While, (MMA) Mobile Marketing Association (2015) also defines mobile marketing as one of the significant strategies, where companies implement their advertising through mobile channels to reach out to target audiences.

Mobile marketing is known by being able to reach target customers even faster when compared to traditional marketing because its ability to access by customers any time and everywhere (Artuger *et al*. 2014). One of the important traits of mobile marketing is its measurability and effectiveness in raising brand awareness of consumers (Sezgin, 2016). Based on past research from Arslan & Arslan (2012) they also found that mobile marketing is a cost-efficient, fast, measurable, bilateral, and a customized method as opposed to direct marketing (Musa, 2016).

Mobile Marketing when merged with digital media and traditional media channels creates a more powerful tool of communication and diffusion of information (Artuger *et al.* 2014). Mobile marketing is an umbrella term and includes in itself various other terms such as wireless marketing, mobile advertising and wireless advertising to mention a few. Numerous research studies have been conducted on mobile marketing over the years, as example (Sultan & Rohm, 2005; Sultan, Rohm & Gao, 2009; Bauer *et al.* 2005, and Sultan *et al.* 2012), to mention a few. However, despite many research studies which have been conducted on this topic, the evidence that mobile marketing is effective or not is still not available on a large scale.

This scant information on the effectiveness of mobile marketing has not affected business organizations across the world, as they are spending more and more money on marketing their products using mobile technologies (Venkatesh, 2015). The increase in the amount of usage of mobile marketing is due to the fact that the business organizations are seeking for new ways to attain increased value for the investments made by them in marketing their products.

Furthermore, the environment of marketing and communications is rapidly changing (Hopkins & Turner, 2012). Markets have become hugely uneven and hence, the effectiveness of marketing using impersonal means has reduced. On the other hand, marketing using the one-to-one communication system has gained importance in recent years. Thus, the interest in researching about mobile marketing has increased in this current period (Venkatesh, 2015). It has been argued by Chang & Villegas (2008), that mobile phones have the highest rate of penetration as compared to other communication devices. This has increased the potential of mobile phone devices to be used as the best tools for advertising products and brands.

Mobile phones are always carried by their owners, regardless of the places visited by them or the locations they are living in and this is one of the reasons for the popularity of mobile phone devices. These devices are being perceived as a basic necessity for those who use those (Chang & Villegas, 2008).

In addition to this, the expansion of internet technology and the high penetration of mobile phones in recent years have created a good opportunity for the advertisers to adopt mobile marketing. Mobile advertising is considered as the simplest form of advertising brands and products wherein messages/information are sent and received on mobile devices such as mobile phones or personal digital assistants (PDA). Mobile advertising is known by many names because advertising messages are sent through text messages, SMS advertising is considered to be the most popular advertising form for mobile marketing (Friman, 2010).

Mobile advertising offers many other features to advertisers such as MMS, videos, gifts, jpeg files, which allows advertisers to send multimedia messages such as audios, videos, pictures, and animations to a selected group of people (Friman, 2010).

2.6 Strategies of Mobile Marketing

Mobile marketing has now become a necessary part of doing business online, yet selection of an appropriate strategy is equally important (Andrews *et al.* 2016). In this section, some of the most effective marketing strategies that drive engagement among users are described.

Use of QR codes to streamline user experience: Use of QR codes is one of the fastest ways to provide relevant information seamlessly. The most popular QR code among mobile users is shopping comparison. As per the Harris poll, a survey conducted by Harvard Business Review analytical services report, 24 percent of the respondents stated that they use their smart phones to scan items and compare the price of the products offered by the stores with the online price (Sopadjieva, Dholakia, & Benjamin, 2017). The use of QR codes for product comparison, reveals that the consumers are interested in buying products that he/she compares the price for. QR codes act as shortcuts to get valuable information for the customers. Generally, QR codes do not take customers on the home page, but they directly navigate the customers to the targeted content. Possible uses of QR codes on a site may include the following: functioning as a Facebook 'like' button for the business page; taking the customer to a campaign-specific landing page; offering detailed information about a particular product or group of products, offering coupons and taking the consumer to a contact page or query form (Mishra & Kumar, 2009).

The use of SMS marketing to connect with users on the fly: there is huge potential in SMS marketing. As per Venture Beat, the open rate for text-based promotions is 98 percent as compared to traditional email campaign which is just 20 percent (Wachs, 2013).

The average CTR (click through rate) for text marketing messages is 36 percent as compared to email marketing messages which is just 6-7 percent (Baglia, 2015). According to Juniper Research, the use of mobile coupons is only going to grow over the coming years and there will be 1.05 billion coupon users by the year 2019 (Saettler, 2015). Some effective ways to use SMS marketing include the following: 1) offering valuable incentives at the time of sign up. This is essential because initially people are reluctant to share their numbers and in such a situation offering a significant discount can be enough to quell reluctance of customers; 2) sending appointment reminders for service based businesses is another manner of using SMS marketing effectively. This can be achieved by sending timely reminders to increase the appointment show rate and; 3) publicize sales and events by sending bite-sized announcements for product launches and other promotions (Andrews, Goehring, Hui, Pancras, & Thornswood, 2016).

The use of Mobile phones, websites and apps. While mobile phones become more and more sophisticated and incorporate the latest technologies, mobile websites follow the same trend and support most of the tools that are normally supported by desktop computers. The latest and prominent strategy is the use of mobile apps and mobile websites (Koslov, 2007). Mobile websites have the ability to generate and create rich and friendly user experiences and content from m-commerce to audio and video. While, Mobile Applications or mostly known as (mobile apps) are software that runs on users phones even while offline, allowing richer user experiences, functionality and more importantly the ability to keep consumers connected at all time with business (Koslov, 2007).

These above stated strategies of mobile marketing help the business organizations reach their customers and prospects anytime and anywhere. In order to enhance the positive outcomes the click through rates is imperative. Mobile marketing is the best tool to directly participate in the journey of a customer and hence, it should be a key part of the marketing strategy of every business organization (DeMers, 2016).

As per the views of Venkatesh (2015), in order to undertake mobile marketing, it is essential to formulate a marketing strategy which will make the mobile marketing an effective tool for the business organizations for promoting the goods produced or services offered by the business organization. Leppäniemi & Karjaluoto (2008), consider Mobile Marketing Strategies as the main cornerstone of firms all marketing activities. There are several points that are required to be kept in mind while formulating a cohesive and effective mobile marketing strategy.

The first area that must be kept in mind is that it is necessary to understand the customers and their requirements. Understanding the customers include the level of interaction between customers and the company; extent to which mobile devices are being used by the customers; customer loyalty towards the brand; technology usage by the customers; customer preferences and identification of the manner in which the objectives of marketing and the needs and requirements of the customer can be synchronized (Saylor, 2013).

The second area that must be given consideration while framing a marketing strategy is the choice of appropriate channel of marketing. While developing the marketing strategy, it is essential to identify whether the channel chosen for advertising helps the organization in achieving the goals of marketing or not. It is important because it might happen that the business which is being carried out by the organization cannot be effectively promoted using mobile phones (Grewal, Bart, Spann, & Zubcsek, 2016).

The third step is prioritizing. The priority of every business organization is its customers. Thus, if the customer is more inclined to a particular type of application and mobile phone device, the business organization must include marketing the product on that particular application or mobile device in its marketing strategy plan. This will help the organization in maintaining a connection with the customers in real time. All the departments of the organization must use the mobile technology at the same level.

This is essential because if marketing is undertaken using mobiles, the customers will get attracted towards the products of the organization which will prompt them to make payment for the products purchased through mobiles only. Hence, the finance department of the organization must also be aware about mobile technology to record the same along with the marketing department of the organization. Thus, it can be said that from the inception of the discussions about strategy and tactical planning till their execution, the priority of every strategy formulated must be the customers and the channel of marketing that will be used (Andrews *et al.* 2016).

The last step that requires consideration is defining the mission of the marketing strategy. It is widely known that marketing using the mobile phone channel is all about enhancing the experience of the customers. The marketing strategy of the organization, thus, must be able to increase the experience of the customers so that the customers behave in the manner business organizations want them to (Ahuja, 2015).

2.7 Benefits of Mobile Marketing

Prior to undertaking any sort of examination of the manner and extent to which mobile devices can be used for changing the practices of marketing, it is extremely essential to understand all the features and characteristics underlying the mobile devices. The features which are unique to mobile marketing and PC's are ubiquity, personalization, two-way communication and localization. The most important advantage of using the mobile channel is ubiquity. The term ubiquity can be defined as "*the ability of users to receive information and perform transactions wherever they are and whenever they want*" (Clarke, 2001 p.131). Since the mobiles are portable, that is, they can be easily carried from one place to another and are normally switched on by the users most of the time, these mobile devices serve as an excellent medium to use them as marketing mediums.

In the present day world, people generally do not leave their mobiles even for a second. The next important characteristic of mobile phones is that they offer the customers personalization. The mobile phones of the users are very personal and usually it is the user only who uses his mobile. The mobiles or the smart phones can also be used to store information which is personal in nature. The next important and useful feature of the mobile phones is that the mobile devices offer the users a facility of a two -way communication. Mobile phones offer the users as well as the marketers to remain in contact with each other continuously and constantly (Alam, Faiz, & Aftab, 2015).

The strength in mobile marketing is ―MIST, is Mobile, Intimate, Social and Transactional. When a company knows its customers it can provide personalized campaigns for the customer making all these keys happen. All steps of the MIST need to be Personal, Portable, Potent and 'I' (intimate). From MIST means that its tailored to wanted audience (Personal), all the information is available wherever needed (Portable) and information is personalized without being pushy (Potent). Big Data makes everything possible because marketers have gained crucial information about the customers (Linden, 2015). The mobile marketing medium is still so new that the largest percentage of potential customers have not yet seen it first hand or full blast, this allows firms to establish itself first as a leader in the industry and insures that messages will achieve higher impact with their target audiences (Strategic Growth Concepts, 2018).

Most marketing campaigns need time to show results. Mobile marketing, on the other hand, yields immediate results. Most people don't only have their mobile phone always with them but they also have the tendency to read their messages as soon as they receive them. Mobile campaigns are easy to create and execute; messages are delivered to recipients within seconds (MMA Global, 2013). Mobile marketing provides opportunity of effective marketing communication because of its features, such as personalization, localization, uniqueness, ubiquity, and interactivity.

SMS marketing has been successful due to its key features, such a personal and unobtrusive nature, simplicity, support for interactive communications and near real-time delivery, relatively low cost, and location-based potential (Alam *et al.* 2015).One of the most affordable ways to advertise products or service while build a brand name and boost loyalty is Mobile Marketing (MMA, 2015).

Mobile marketing has a much lower CPM (cost per thousand) than other traditional marketing channels and thus enables you to reach more potential buyers at a considerably lower cost than other marketing methods such as TV or radio ads, billboards, etc. (Mobile Marketing Association, 2013). Wireless marketing helps to effectively obtain targeted and tailored messages to customers which fosters customer-business relationship Mobile devices increase the possibility, speed and frequency of sending marketing messages to customers.

Retailers can push sales promotions or fulfilment updates to consumers through the mobile channel for the consumers to access instantly. In the traditional channel, a retailer can interact with a potential customer only when the customer is in the vicinity of the store. In the mobile channel, the retailer can interact with the customer everywhere, enabling the retailer to constantly enter the customer's environment (Amarsanaa & Anjorin, 2012).

Mobile phones are advantageous in their ability to be moved around with. Potential mobile customers can move around with their phones, and they keep them turned on. This means that urgent or time-sensitive messages including sales notifications and special events notices, can reach customers urgently with little or no delay. Mobile marketing is an advertising medium that uniquely offers this "always on" advantage. With mobile marketing, marketers can expect consumers to receive a marketing message and read it at their convenience any time of the day (Johnston, 2015). The ease of action mobile marketing offers to consumers has made mobile marketing a smart marketing strategy.

As stated by Jeremy, (2013) about 90% of texts are opened and read within 15 minutes of receipt. This almost guarantees marketers that their messages will be opened and read quickly. In addition, mobile marketing technology can allow very clear and clickable Calls-to-Action (CTA), where consumers can take an action immediately after receiving the message from the marketers if they wish to do so. Additionally, since almost all (98%) of mobile phones can receive SMS messages it becomes easy and user pleasant chance for the customers to act. This is because there are no downloads necessary, no technology learning curves, and no behaviour modifications required (Jeremy, 2013). Jeremy (2013), stated similar benefits of mobile marketing such as immediacy in mobile marketing, since mobile campaigns are both easy to create and execute.

In addition, the message reaches to the recipients in no time. Affordability is the next advantage of mobile marketing. This is because mobile marketing does not involve the cost of printing or postage. There is a minimal fee per message but, that also decreases as the number of messages are increased. The next advantage is associated with distribution; mobile marketing can help in reaching to people all over the world. The delivery of the message is also guaranteed unlike other forms of marketing and there is a better effectiveness on the response rate. The average response rate for mobile marketing initiatives according to a study conducted in Sweden is approximately 15% (Bexelius, 2009). The content generated in mobile marketing is targeted to the individuals and the messages can also be customized on the basis of a more diverse audience.

In sum, mobile marketing helps in reaching the customers along with creating a communication that is two- way. Moreover, the mobile marketing also helps in developing and integrating different and innovative forms of promotion and advertisement. The results of the mobile marketing are quantifiable in nature and can be tracked easily with the measures such as page visits, downloads etc. Last but not the least, the mobile marketing has a viral potential i.e. the marketing messages can be shared with future potential customers at no cost (Al-alak & Ibrahim, 2010).

2.8 Threats in Mobile marketing

In the last couple of years, there has been a drastic increase in the adoption of mobile devices as well as its utility. But still, there is always a risk attached to the outcome of any positive development in this particular market. For example, while on one hand the various application stores provide an unstated convenience to access a lots of programs, on the other hand it has become a ready base for the distribution of the malware. Further, as the mobile devices are becoming more powerful with enhanced capability to host a lot of business as well as personal applications, it has increased the vulnerability of exposure and compromise of the sensitive corporate data and other systems.

Last but not the least, the ease of portability of the mobile devices make it all the more susceptible to loss and theft (Donga, 2017). With a wide range of protocols, principles, and territorial differences by various nations, versatile stage discontinuity represents a major test to brands with a requirement for a mobile marketing methodology. The following threats that are mentioned in the coming lines are some serious disadvantages linked with the mobile marketing and hence could be considered as some of the factors that hinder the acceptance of the mobile marketing amongst the consumers.

Threat to the privacy: the contemporary consumers are acquainted with using their mobile devices for applications (apps) such as social networks, location-based services, and games on the same device on which they want to do mobile banking and mobile commerce, thereby compromising their security and privacy (Waugh, 2010). Most of mobile phone users use their respective devices for such purposes because they are unaware of these kinds of threats and in some cases even when they do know about the plausible threats, they are unwilling to act to protect their privacy until it is too late to act. Mobile marketing could be highly intrusive of the consumer's privacy and acts as a serious threat on the user's whereabouts such a location, identity, information and choices.

The legal system seems to be far too insufficient with the ever increasing enhancement of technologies. Legal system often fails to protect ethical issues of marketing and to guard users from threat posed by rampant mobile marketing approaches by merchandisers (Waugh, 2010).

Threat due to malware: malware has been increasing at a rampant pace because of the lack of security mechanisms but increased power and production of the mobile devices. This is evidenced by a reported 250% increase of threats between the years 2009 and 2010 (Juniper Networks, 2011). All the major platforms are practically the targets for malware. For the sake of examples - Trojans that send short message service (SMS) messages to premium rate numbers, background calling applications that rack up overpriced long distance bills for victims, key-logging applications that can compromise passwords, self-propagating code that infects devices and spreads to additional devices listed in the address book, and more. Further, such threats continue to be developed as more sophisticated tools with malware appear (Juniper Networks, 2011).

Threat due to cyber-crime: Mobile marketing is placed on the public companies' websites and mobile-commerce is one of its integral part. According to Smith *et al.* (2011), the term 'cyberspace' can be defined as the electronic medium of computer links or networks, mainly the Web, in which online communication takes place. E-business or cyber-business is vulnerable to e-crime, known as cybercrime, and that is one of its disadvantages. Some corporations are rapidly integrating the mobile commerce technologies into their respective framework without comprehending the risks attached to it and how the same could be used against themselves (New York Times, 2012). The attackers, known as cybercriminals, could deflect the financial assets, obstruct or close-down the correspondence between the customer and the organisation, steal intellectual property, destroy an organisation's status, or notwithstanding even bring the commerce to a halt (New York Times, 2012).

Mobile devices are so vulnerable that they could be a channel to commit crimes, could be used to anchor the proof of crime, and even be made the sufferers of the crime. According to Smith *et al.* (2011), a company's marketing activities can be disrupted by cybercrime which means that the publicly traded companies suffer a huge expense due to the cybercrime which could be in the form of stolen assets, impaired reputation or even loss of business. The financial loss which the businesses suffer was proven by data collected in the US which showed that cybercrime had cost the American economy whopping over a USD 100 billion per year (Kratchman *et al.* 2008; Mello, 2007). Cybercriminals can steal cash in a jiffy from an individual as well as businesses at a click of a button. When a company becomes victim of a cybercrime, its website goes down and the consumers tend to take their business elsewhere because of the loss of confidence and trust especially by the ones who are cautious about their transactional safety and this district could lead to further loss of business in the future too.

Threat due to loss and theft: irrespective of the location, the mobile devices are susceptible to continuous access to information inclusive of business and personal information. The incidence of losing or stolen is also widespread because of this, thus posing a challenge to the success of the mobile. marketing campaigns. As per a survey of consumer users As per the report of Juniper Networks (2011), almost 33% of mobile device users have lost their respective device at some point or the other. Such loss could account for some overwhelming consequences as the customer's personal data could be tampered with which includes accounts with passwords saved in the browser, contacts with pictures and addresses tied to the contact, calendar showing events, social media accounts, personal photos and pre-connected email accounts. In addition, the businesses also loss money as they employ mobile marketing techniques to target a particular customer but the same is not connected (Juniper Networks, 2011).

Intercepting communication: communication interception, defined as any interruption in the process of communication, could be a threat to mobile or immobile device that links to a network. In this regard, the smartphones are advantageous as their communications are protected in a special way thus forcing the hackers to possess some specialised knowledge in order to intercept the connection between the device and the cell towers (New York Times, 2012).

As per Juniper Network paper, the Wi-Fi capability of the smartphones expose them to greater risk of marketing communication interception and the risk of Wi-Fi sniffing and interception is on a high rise. The risk of man-in-the-middle (MITM - hacker enters the communication stream between user and the provider) increases as soon as a mobile devices attaches to a Wi-Fi network (New York Times, 2012).

2.9 Barriers in the adoption of Mobile marketing

There are many barriers when it comes to the adoption and acceptance of using mobile marketing. The following are few examples.

2.9.1 Usage barrier

The defiance of a new invention because of its difference from the current state and plan is called Usage barrier (Barati & Mohammadi, 2009). Rahman (2013) study conducted about the deficiency in accomplishing the acceptance of the m-commerce is adversely restricted by the non-capability to read and write. A sample size of 27 stakeholders was taken in Bangladesh to conduct interviews for this study and the result indicated (based on the qualitative content analysis of the transcript) that deficiency in proficiency negatively affected the adoption of m-commerce.

Besides this, a study conducted by Mahatanankoon & Vila-Ruiz (2007) concluded that the adoption of m-commerce is affected by the inefficient or inexperience of the device users. Factor analysis run the web-based survey of 215 US university students established that a negative relationship existed between the device inefficiency and mobile commerce usage. Usage barriers are affected by the deficiency in the proficiency and incompetency of mobile device users which negatively impact the adoption or acceptance of m-commerce.

2.9.2 Value barrier

Value barrier is defined as resistance towards the acceptance or usage of products or services when there is a mismatch between the perceived performance-to-price value, vis-a-vis to other substitutes (Rammile & Nel, 2012). A study undertaken by Aslam *et al.* (2011) in Pakistan showed that the low perceived value has negatively affected adoption intention of internet banking. For this study, they analysed the responses using SPSS for descriptive statistics which was run on a structured questionnaire 520 responses collected across 10 banks. Further, a quantitative research undertaken by Agwu (2013) (the study used 630 questionnaires from persons in the UK) showed that a negative relationship existed between the value barrier and the internet banking adoption.

2.9.3 Risk Barrier

Risk barriers are the uncertainties which are inherent and entail to innovations (Marett et al., 2015). An elaborate study conducted by Liébana-Cabanillas *et al.* (2014) about the antecedents of adoption of new mobile payment systems showed (result based on SEM analysis of the 2012 valid questionnaires collected through online survey) that the perceived risk was negatively related to the adoption intention.

A different quantitative study was done in Malaysia to fathom the affect of innovation resistance among bank consumers by Munusamy *et al*. (2012) which based on the questionnaire administered to selective banks and multiple regression analysis done on the responses proved that perceived risk has negatively affected adoption of online banking in Malaysia.

2.9.4 Tradition Barrier

Tradition barriers are defined as obstacles that originate when a technology innovation poses a change in customer's established tradition (Mohtar *et al.* 2015). A study done by Gurtner (2014) using SEM for analysis examined different forms of resistance in the context of mobile applications. Its conclusion, based on 752 German smartphone users, was that tradition barrier has given a negative impact on the adoption intention towards mobile applications.

Another research by Lian and Yen (2013) found that there was a negative relationship of tradition barrier on M-shopping intention. The study administered questionnaires to 178 Taiwanese Small & Medium Enterprises (SMEs) which were tested by multiple linear regression analysis to find the effect of the tradition barrier on M-shopping intention in the cosmetic industry.

2.9.5 Image Barrier:

Image barrier is defined as the negative thoughts of individuals associated with the technology tools and the perception of complication of use (Elbadrawy & Aziz, 2011). The quantitative study, using 50 North Lebanon households and MLR analysis, done by Bakhit (2014) signified that image barrier has a moderate impact on resistance.

Again, Kuisma *et al*. (2007) researched to identify the factors behind resistance towards online banking in Finland. Using the means-end approach and the laddering interviewing technique, 30 bank consumers were interviewed and concluded that perceived image barrier has a negative relationship with the adoption of innovation.

2.9.6 Perceived Cost Barrier

Perceived cost barrier means the additional expenses that are incurred while changing from usual and traditional methods to innovative methods (Lu *et al.* 2011). An empirical study had been done by Pham and Ho (2015) to examine the resistance of consumers to adopt mobile payments in Taiwan wherein the targeted respondents were the mobile payment users. A total of 402 valid responses were collected through the web survey on which structural modelling analysis was done to conclude that perceived cost barrier has an adverse impact on the mobile payment adoption.

Further, Lu *et al.* (2011) had a research to investigate how the consumers' adoption intention of mobile payment services was affected by positive and negative valence factors. This was conducted through web-based survey and received 961 valid responses from the users of Alipay - the mobile payment service provider. The result thus showed that though the perceived cost barrier does negatively affect the students' adoption intention of the mobile payment services, it had little significant impact on workers. Despite all forementioned drawbacks, mobile marketing explansions continues, as well as its adoption for companies and users.

2.10 Developments in Mobile Marketing at Global Level

The evolution of advertising in marketing has experienced a number of phases. For example, radio advertisements and bill board advertisement were mostly used back between the years of 1950's and 1970's (Kotler, 2016). These traditional methods of advertisements are however still used but in combination with the new technological methods such as the mobile ads. The purpose of both the traditional and digital means of advertising is similar, but there is a huge difference in the cost, as well as the way in which people interact with the advertisements (Balasubramanian, Peterson, & Jarvenpaa, 2002). The field of marketing using the mobile channel is a relatively recent area of interest among the theorists and practitioners at a global level.

Mobile marketing serves as one of the latest tools which facilitates effective and efficient communication of relevant information. The evolution of mobile marketing can be determined with the help of observing the latest developments in technology. However, the future of mobile marketing is dependent upon the effectiveness with which the objectives associated with brand metrics can be accomplished. Such objectives include return on investment, awareness and intention to purchase (Al-alak & Ibrahim, 2010)

A major body associated with mobile marketing field is the Mobile Marketing Association (MMA), which is an international non-profit association of trade. Various formats are available in mobile marketing such as display advertising, search advertising, audio and video marketing messages, sending SMS and MMS etc. The assessment of the influence of mobile marketing services can be done on a wider context through electronic services. The electronic services have impacted the productivity and growth of knowledge-based economy quite positively (Plumb & Zamfir, 2009).

Furthermore, improvement in the performance of the service sector is significant for undertaking the overall development in economic terms. In the year 2012, the first evaluation of the size of mobile advertising market at an international level by digital trade bodies was completed. The anticipated value of mobile advertising market was approximately EUR 3.8 million (Pride & Ferrel, 2016). SMS and MMS which are cumulatively referred as messaging, was given the third rank in the total amount spent on mobile advertisements. The rank was led by search tools followed by media rich content.

Some major statistics associated with mobile marketing advertising show that: in the year 2016, global spending in the mobile internet advertisement was $101 billion. In the United States (as example), spending in mobile advertisement was $40 billion in the year 2016. The mobile applications that were installed in one of the months of 2016 was $2.5 billion in number (Pride & Ferrell, 2016).

	2013	2014	2015	2016	2017	2018	2019
Mobile internet ad spending (billions)	**$19.20**	**$42.63**	**$68.69**	**$101.37**	**$133.74**	**$166.63**	**$195.55**
—% change	117.9%	122.1%	61.1%	47.6%	31.9%	24.6%	17.4%
—% of digital ad spending	16.0%	29.4%	40.2%	51.1%	59.4%	65.9%	70.1%
—% of total media ad spending	3.7%	7.8%	11.9%	16.5%	20.5%	24.1%	26.8%

Note: includes display (banners, video and rich media) and search; excludes SMS, MMS and P2P messaging-based advertising; ad spending on tablets is included
Source: eMarketer, March 2015

Figure 6 - Global Mobile Advertising Spending Forecast 2013-2019

Source:(eMarketer, 2015, March, para. 1)

The figure 6 above depicts the spending in global mobile advertising. The table shows the spending of the last few years along with a forecast till the year 2019, so there are two major distinctive trends.

Firstly, spending on mobile advertising has been increasing and it will continue to grow till the year 2019. Till the year 2019, spending will reach over $200 billion i.e. spending will be increased by 10 times. Secondly, the rate of the growth of mobile advertisement will decrease with time and by the year 2019, it will reach to 17%. The reasons behind the decline in growth are that more and more companies will adopt mobile marketing and the competition will increase and, hence the growth rate will also decrease in the future.

It will become difficult for the companies to increase their revenue from the advertisements in such a competitive environment (Vekaya, 2016). Following the same trend, another study shows the formats of the mobile advertisements along with their stacking between 2011 and 2016.

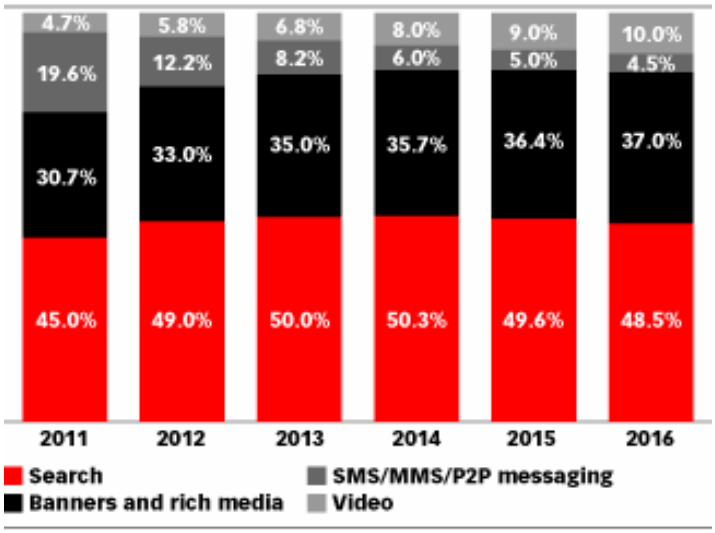

Figure 7 - US Mobile Ad Spending Share by Format 2011-2016

Source: (Dogtiev, 2015, para. 1)

The figure 7 shows that there has been shrinkage of almost 15% in the SMS P2P messaging. Furthermore, the video advertisements have increased significantly from only 5% in the year 2011 to 10% in the year 2016. This indicates that the video formats of the advertisements have gained wide recognition. There has been little growth in the search format; this is due primarily to the competition that the companies are facing in the market.

In addition there has been little growth in other display formats of advertisements.In another study conducted, the mobile phone subscriptions across the world reached 5.9 billion and penetration rate in the year 2011 reached 87% (MobiThinking, 2014). The introduction of mobile phone devices and smart phones have provided marketing agencies and companies with additional opportunities which facilitate their interaction and communication with their target market. Advancements in the field of technology provide innumerable opportunities to the marketing agencies and companies to make their products and services popular among the masses. However, it is essential for companies to obtain quantitative evidence with respect to the market for making relevant mobile marketing investment decisions.

Evaluation of contribution made by mobile marketing and advertising to the marketing mix of the company must be done on a regular basis. This will provide the exact amount of benefit accrued due to the implementation of mobile marketing activities for promoting products and services of a company. Currently, at a global level, the mobile marketing tools and techniques are still under process to convince the marketing managers of the benefits, which they will be able to accumulate with the help of mobile marketing (Al-alak & Ibrahim, 2010).

2.11 Technology and mobile marketing in the UAE

The government of the UAE has begun to place a lot of importance on technology and its advancements. The leadership of UAE has recognized the significance of undertaking constant innovation and the central role played by technology in the economic development of a region. This particular perspective of leadership within the UAE is highlighted from the vision developed by the government for the year 2021.

The main factors essential for the growth and development of the UAE that have been recognized in the Vision 2021 are innovation, science and technology. These factors emphasize the transition of UAE towards an economy based on knowledge which ensures that development of the country takes place sustainably (UAE Vision, 2017, p. 15).

As per the report which highlights the Vision 2021 of the UAE, "*Innovation, research, science and technology will form the pillars of a knowledge-based, highly productive and competitive economy, driven by entrepreneurs in a business-friendly environment where public and private sectors form effective partnerships*". From this statement, it can be inferred that the government of the UAE places a lot of importance on ensuring that their country progresses in the field of information technology. Below figure depicts the various areas which are to be the focus of the Vision 2021:

Figure 8 - National Innovation Strategy Framework

Source: (UAE Government, 2015, p.15)

From the above figure 8, it can be observed that the government of UAE is planning to concentrate majorly upon technological advancement and for this purpose the Vision 2021 includes development of requisite technology infrastructure (UAE Government, 2015).

Thus, it can be implied that the government of the UAE is in favor of technological advancement, which will provide business organizations a boost to enhance performance. In addition to this, business organizations will also be provided with numerous technological platforms to market their products and services (Ismail & Zhang, 2017).

Further, it is important to highlight that the United Arab Emirates has adopted a policy that is highly aggressive in terms of implementing information communication technology along with technology supporting environment. This policy considers the information technology development as one of the major aspects that can help in the diversification of the economy along with attracting investors to the country. Over the last five years, the country has established and implemented the policy of National Telecom, so as to accelerate the growth of this sector along with encouraging the development of this sector. In the context of technological progress, it is important to highlight that the UAE is the number one country among the Arab states and is ranked 29th in the world for strong performance in the area of information and technology (UAE Government, 2015). To add to that, the country has also sponsored a fund called the ICT Development Fund in the year 2005, which intends to promote research in the area of information and communication technology globally and regionally.

Also, the country focuses on Cyber Security as the reliance on the internet has grown exponentially. Cyber security rules, laws and regulations help the country to prevent or eradicate internet threats. The above discussion indicates that the UAE is one of the most technologically advanced countries in the world (Ismail & Zhang, 2017). Furthermore, recent trends suggest that the UAE has witnessed a phenomenal growth in the digital world. In the year 2014, the digital world across the globe was dominated by mobile devices and this omnipresent tool will further dominate for many coming years. There has been a stupendous growth in mobile usage and internet usage in recent years. As per January 2017, the following demographics were identified:

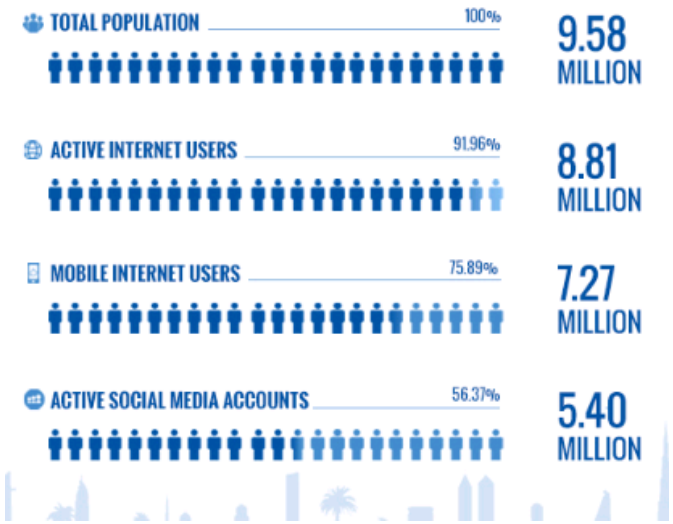

Figure 9 - Demographics related to digitization in the UAE

Source: (Global Media Insight, 2017, para. 1)

The above figure depicts that more than 90% of the population of the UAE are using the internet for various purposes such as socially connecting with people or undertaking various online activities. From this, it can be inferred that people of the UAE are becoming greatly inclined towards using technology in their day to day lives. Most of the people use internet through three major devices which are laptops, desktops; tablets and mobile phone devices. The following figure depicts the percentage of usage of internet via these devices:

Figure 10 - Web Traffic across devices

Source :(Global Media Insight, 2017, para. 2)

Forty four percent of the total population of the UAE uses internet technology through laptops and desktops and 6% of the population use internet through tablets. Almost half of the population makes use of the internet technology through their personal mobile phone devices. Of the total population who use internet through mobile phones, more than half of such users use various apps through these devices. Thus, it can be inferred that the use of the internet through mobile phone devices by the people of UAE is increasing rapidly.

The following figure illustrates the countries wise use of the internet:

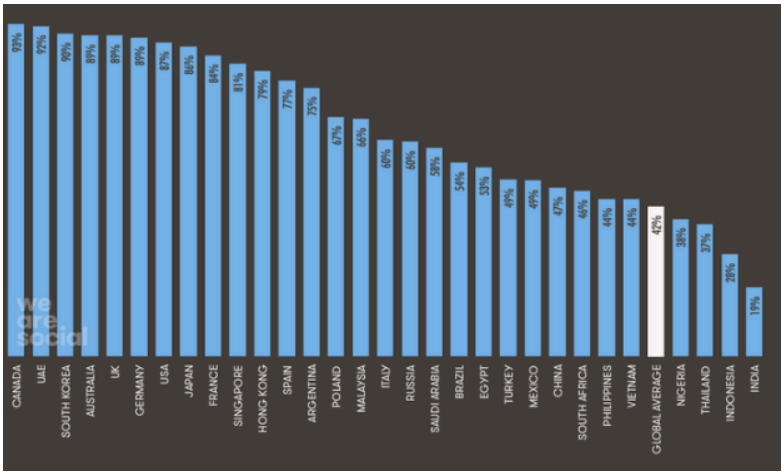

Figure 11 - Country-wise Internet Usage

Source: (Global Media Insight, 2017, para. 3)

The country-wise internet use statistics depict that the UAE stands in second place among many countries with more than 90% of the population engaged in using the internet. All the above information indicates that most of the population of the UAE increasingly make use of the mobile phone technology for using internet and also for various communication purposes. This information is quite relevant for this study as it is based on the acceptance of mobile marketing by higher education students of the UAE. Thus, it was essential to identify the usage of mobile phone devices by the people of the UAE so that the impact of advertising on mobile phone devices and the factors affecting consumer acceptance towards mobile marketing can be evaluated.

2.12 Use of Mobile Marketing in the UAE

Mobile marketing is growing at a rapid pace and it can be said that it is the most used approach towards marketing of products and services, particularly in the last five years. According to Selvi (2015), his study showed that 61% of the total population of the UAE are using smart phones and out of these, 39% of the population use these phones to purchase various products and services online. This data is indicative of the fact that mobile advertising is great source of online business. However, despite the increasing significance of mobile advertising in the present-day scenario, there are only few business organizations which are effectively using mobile phone devices as a platform to advertise their products and services in the Middle East region (Selvi, 2015).

Hence, from this information, it can be inferred that there are various opportunities which are available in this field which are still untapped by the marketers. Although in most of the developed regions across the world, mobile marketing technology has been almost completely adopted, whereas in developing nations such as United Arab Emirates, Oman, Kuwait, Bahrain, Qatar and Saudi Arabia, the concept of mobile marketing is still in its initial stage (Al-alak & Ibrahim, 2010).

The business organizations in the Middle East Region have realized the significance of mobile marketing, particularly in the present day scenario. The various benefits of using mobile phone medium to market the products and services produced by business organizations include ubiquity, location sensitivity, increased responsiveness and personalization. Ubiquity facilitates the marketers with ease of access to customers. This means that the marketers can resolve queries of the customers and inform them regarding any new development that takes place anywhere and anytime. Mobile marketing helps the marketers to reach even to those customers who live in remote locations, thus increasing the customer base of a business organization (Omair, 2016).

Customers as well as marketers can easily receive and send relevant information to each other. Location sensitivity is another benefit of mobile marketing which helps the marketers to identify exact location where the customer is based, so that their issues and problems can be easily addressed. Mobile phones also allow personalization, which allows the marketers to connect to the customers personally and pass relevant information. In addition to this, penetration of mobile phone devices in the UAE has been exceptional and this certainly provides an opportunity to marketers to attract the attention of prospective customers towards their products (Ahuja, 2015).

Apart from the increase in undertaking various mobile activities, statistics reveal that people of the UAE use mobile phones or rather smart phones for various purposes such as online shopping, online payments and social networking. As per Omair (2016) various international brands have involved themselves in launching a number of mobile marketing programs which helps those to provide various facilities to the customers such as tracking of location and quick resolution to their issues associated with products. All these factors have led to develop a change in the minds of people of the UAE with respect to their behavior towards acceptance of mobile marketing. Statistics also reveal that most people in the UAE who use smart phones are below the age of 34 years, signifying that mobile phones are particularly being used by the young generation of people (Go-Gulf, 2013). Therefore, it can be assumed that this particular section of society is playing a huge role in making mobile marketing popular in the UAE and should be the focus of this study.

2.13 Consumer Behavior towards Mobile Marketing

Consumer behavior can be defined as the study that is associated with the groups, organizations, individuals and the process used by them for selecting, securing, using and disposing of the services, experiences, products and services (Vijayalakshmi & Mahalakshmi, 2013). Consumer behavior is concerned with the economic and social impacts that the consumption or the purchasing has on consumers.

Consumer behavior is the field of study that blends the number of elements from the fields of sociology, psychology, marketing, social anthropology and economics. The companies examine the emotions and attitudes, as well as the preferences that can have an impact on the buying behavior of customers. The formal studies of consumer behavior studies the characteristics of the consumers such as the personality, demographics, and lifestyle as well as behavioral demographics such as the usage occasion, usage rate (Wright, 2006).

The manner in which consumers behave towards mobile marketing is greatly influenced by the manner in which they use their mobile phones. Hence, before initiating an advertising campaign through mobile marketing, it is essential to know the extent to which consumers use their mobile phones. This is considered as a significant determinant of successful advertising on the mobile platform.

The mobile technology revolution has given opportunity to the marketers to serve the consumers with the help of different strategies. It is however important that the mobile marketing strategies and the tactics are built according to the behavior of the consumers. In this context, marketers nowadays are focusing on understanding the decision making process of the consumers, which is an important part of consumer behavior. The advent of mobile marketing has influenced the purchasing behavior of the consumers. There are some contextual factors also that affect the purchasing behavior of consumers, such as trust. The mobile marketing strategies should be developed according to the perspective of the consumers (Thangadurai, 2016).

The acceptance of new technologies has an influence on consumer behavior. The use of smart phones and internet depends largely on consumer acceptance of the innovations associated with technology. The impact of mobile marketing on the promotions is dependent on the quality of the information provided by the marketers.

Consumer's attitude for the mobile technology has a strong relationship with the purchasing decisions of customers (Bauer *et al.* 2005). In sum, consumer attitudes is one of the most prevalent thought in marketing research since the attitudes are closely related to consumer behaviour which means that the attitude is a forerunner of the behaviour (Churchill & Iacobucci, 2010). Karjaluoto (2002) defines attitude as an overall perception about a product, service, or object, and attitudes are influenced by past behaviour.

As per Bhattacherjee and Sanford (2006) research has investigated quite a few antecedents and perceptions that are believed to affect the potential user's attitudes, behaviour and beliefs towards gaining mobile marketing acceptance. In order to understand better the concept of acceptance for consumers, this research will review the models developed previously, by conducting a literature review on acceptance and its factors.

2.14 Mobile Marketing Acceptance

The manner in which people communicate, share and access relevant information has drastically and significantly been affected with the growth of communication through mobiles and wireless networks, Fishbein and Ajzen (1975) stated in their study acceptance, as measured by behavioral intent toward marketing, is the key outcome variable. In general, behavioral intent has been defined as the strength of one's intention to perform a specified behavior.

Specific to our research, this construct relates to respondents' receptiveness and intentions to engage in activities such as receiving product, or information related, marketing communications and promotional offers on their mobile phones. Bauer *et al.* (2005) and Nysveen *et al.* (2005) in their study have examined behavioral intent to use mobile data services such as text messaging. Sultan *et al.* (2009) proposed a model that incorporates behavioral intent related to consumer acceptance of mobile marketing practice.

Their research focuses on consumer acceptance of mobile marketing—which relates specifically to intentions to engage in mobile marketing activities (beyond mobile data services) that involve interactions between marketing entities (e.g., brands) and consumers. Mobile marketing acceptance has been defined by Deng, Lu, & Chen (2010, p. 171) as "*an individual consumer's propensity to accept new technologies and use them in a way that they will find useful*". In other words, mobile marketing can be referred to as using the mobile devices for storing personal information, facilitating one-to-one communication, providing specific locations and entertainment purposes (Bauer, Reichardt, & Neumann, 2005).

Barwise & Strong (2002) measured acceptance of mobile marketing, and willingness to engage in mobile marketing activities and suggested that explicit consumer permission to receive mobile advertisements (through opt-in approaches) can influence relatively high acceptance levels. As such, they measured intentions such as being willing to receive marketing or promotional offers on one's cell phone, being willing to receive offers from companies selling products related to a sporting event one is attending, and being willing to receive solicitations from companies to whom one has given permission.

Findings from other studies related to digital communications employing the Technology Acceptance Model and uses and gratifications perspectives suggest that, from the point-of view of the individual consumer, digital media is used for purposes for both entertainment, or play, and utility (Bruner & Kumar, 2005; Haghirian & Madlberger, 2005; Nysveen et al., 2005; Venkatesh, 2000).

For instance, Bruner and Kumar (2005) apply TAM to consumers' use of mobile devices (e.g. cell phones) and suggest that enjoyment of mobile device usage is a stronger predictor of attitude toward usage than such traditional TAM constructs as perceived usefulness. Similarly, Nysveen *et al.* (2005) find that both perceived usefulness and perceived enjoyment are directly related to the intention to use mobile data services. Further, Haghirian &

Madlberger (2005) find that both the entertainment and the information associated with advertising content are related to perceived advertising value in the mobile context. Grant & O'Donohoe (2007) suggest entertainment, social stimulation, escapism, and purchase information and advice are motives for young consumers to engage in mobile marketing communication. Mobile technology facilitates integration of computer technology and internet technology in an environment of wireless communication.

In addition to this, with the progress of mobile technology and mobile devices, various doors for surfing the internet are opened. Moreover, mobile devices integrated with internet technology helps the users in finding locations with the help of GPS technology, watch movies, undertake online shopping and playing games (Balasubramanian, Peterson, & Jarvenpaa, 2002); (Siau, Hong, & Fiona, 2005). Hence, it can be said that with the increase in exposure of the users to mobile marketing, their level of acceptance for this technology is also increasing.

Marketing literature has repeatedly applied two of the most famous theoretical structures, namely, gratifications theory and the TAM or technology acceptance model. These models are often used in literature related to marketing for explaining behavior of the individuals with respect to the usage and acceptance of technology. In this research study, conceptual model related to acceptance of mobile marketing by consumers has been adapted from the study conducted by Gao, Sultan, & Rohm (2009) and Sultan et.al. (2012). The authors have developed the conceptual model based on the theoretical perspectives offered by these two theories. The technology acceptance model dwells on two significant elements that usually predict intentions of the consumers to adopt relevant technology. These elements are perceived usefulness of technology and the perceived ease of using such technology (Davis, Bagozzi, & Warshaw, 1989).

The focus of TAM is specifically on adoption and usage of technology at the systems as well as organizational levels. Such an adoption and usage is based partly on motives which are normative and extrinsic. Even though the theoretical models connected to TAM are basically applicable on adoption of technology inside a business organization, but it can also be implemented with respect to more general contexts such as acceptance and usage of technology from the perspective of a consumer (Davis *et al.* 1989).

Technological perspective was used by Gao, Sultan, & Rohm (2010), because the researchers incorporated mobile activities related to marketing in their model. Mobile activities related to marketing included provision of information, sharing relevant content with the help of mobile devices and accessing information through mobile platform. As per the conceptual model developed by the authors, marketing-related mobile activities which comprised of the above mentioned factors mediates the relationship between acceptance of risk and personal attachment with the devices and adoption of mobile marketing practices by users.

On the other hand, gratifications and user research concentrates more exclusively on the use of technology by individuals for reasons which are both rational as well as utilitarian reasons. In addition to this, individuals also use technology for hedonic purposes of enjoyment and seeking fun (Lin, 1996; Stafford *et al.* 2004). The perspectives provided by TAM related to adoption of technology is dependent upon factors connected to choice of consumers regarding use of new media (Stafford, Stafford, & Schkade, 2004).

For instance, with respect to the use of the internet by individuals, Stafford *et al.* (2004) identified that use of the internet by the consumers is based on factors such as social gratification, process and content. Furthermore, a study conducted by Nysveen *et al.* (2005), which is related specifically to mobile setting, established that, perceived enjoyment as well as expressiveness affects intentions of using mobile services directly.

Therefore, the perspective offered by the uses and gratification theory, explains in detail the role played by personal motives connected to various fields which include communication media. Here personal motives related to media communication ranges from functional (i.e. utilitarian) to social status, enjoyment and entertainment (i.e. non-utilitarian). The extent to which mobile devices and the internet technology can be observed as viable marketing and commercial platforms has also been investigated in prior studies (e.g. Novak *et al*. 2000; Silk, Klein, & Berndt, 2001; Carroll, Barnes, Scornavacca, & Fletcher, 2007; Peters, Amato, & Hollenbeck, 2007).

As per the views of past studies conducted in this respect, medium of marketing has a strong familiarity for being a tool of information and the medium for communication. This tool is correlated with using a particular a medium for the purposes of marketing, for instance, online shopping. Novak, Hoffman, & Yung (2000, p. 6) can be cited in this context. As per the authors, "*consumer's skill and sense of control related to internet use correlated highly with their task-oriented activities such as online shopping and accessing product information*". There are various factors which have a direct impact on the acceptance behavior of consumers. Various studies have addressed the factors influencing consumer acceptance (Bauer, Reichardt, & Neumann, 2005; (Siau, Hong, & Fiona, 2005); Haghirian, Madlberger, & Inoue, 2008).

Major outcomes of these studies revealed that there are various factors such as, trust, sharing of information, risk consideration, perceived value and personal attachment that affect the acceptance behavior of consumers. Some research studies also found out that there exists a high correlation between the skills of consumers and sense of controlling (which is generally related to use of internet, accessing information on products and undertaking online shopping) (Smutkupt, Krairit, & Khang, 2012).

On the basis of reviewing existing literature on Technology Acceptance Model and Gratification theory, Sultan *et al.* (2009) identified the dependent variable to be Mobile Marketing Acceptance by consumers and independent variables which include risk acceptance, personal attachment and the above mentioned mobile-related marketing activities (Gao, Sultan, & Rohm, 2010). While Almeshal & Almotairi (2013) created the first study in the Middle East regarding mobile marketing acceptance and considered perceived value, sharing content, accessing content, providing information, and risk acceptance has independent variables that have a significant impact on mobile marketing particular in Saudi Arabia. Thus, in the next section various factors influencing consumer behavior towards mobile marketing acceptance are going to be discussed in detail.

Despite many studies worldwide regarding mobile marketing acceptance, this topis still lacks a deeper understanding within the UAE region. Although, other studies were conducted in the UAE that have employed Technology Acceptance models in differents contexts such as: e-Banking adoption with Aboelmaged & Gebba (2013), e-learning acceptance by Al-Hawari & Mouaket (2010) and e-Services acceptance conducted by Al-Mutawa (2013).

2.15 Factors influencing Mobile Marketing Acceptance

Measurement of mobile marketing acceptance can be done by behavioral intent of the consumers towards mobile marketing and this particular variable is considered central to our research. As per Fishbein & Ajzen (1975, p. 288), the term behavioral intent can be referred to as "*the strength of one's intention to perform a specified behavior*". With respect to this particular study, mobile marketing acceptance is associated with receptiveness of respondents and their intention to involve themselves in various mobile marketing related activities. Some examples include receiving information related to products; receiving promotional offers and other communication related to marketing.

Various studies such as Bauer, Reichardt, and Neumann (2005) and Nysveen, Pedersen, and Thorbjørnsen (2005), have also investigated the behavioral intent of consumers related to the mobile data services usage (for example, text messaging). Conceptual model proposed by Gao, Sultan, and Rohm (2010), has incorporated the behavioral intent of consumers related to mobile marketing practice acceptance. Since, our study has adapted the variables proposed in the model created by Sultan *et al.* (2009) and Sultan *et al.* (2012), therefore gaining an in depth knowledge of such variables is essential. Dependent variable of our research, i.e., mobile marketing acceptance by consumers is specifically related to the intention of consumers to associate themselves to activities related to mobile marketing. This research does not focus upon the activities related to mobile data services which include communication between marketing organizations (i.e. brands) and users of products.

Moreover, our research measures acceptance and willingness to be involved in mobile marketing activities with respect to past studies, which suggests that getting permission from consumers for sending them regular updates and information on products and services will help in increasing the acceptance levels of consumers (Barwise & Strong, 2002). Therefore, measurement of consumer intentions for receiving marketing messages on their personal mobile phones (for example, readiness of the consumers to receive offers which are promotional and marketing related) is done in this research.

2.15.1 Risk acceptance

It is widely believed that the behavior of customers is greatly influenced by their perception towards risk. Consumers are often uncertain with respect to the consequences of various actions and decisions taken by them. Moreover, various studies reveal that minimization of risk is the main motive of the consumers and this forms the basis of taking decisions. According to Godin (2008) *in* Seth's blog, permission based marketing is extremely important in acceptance, where consumers have the right to choose if they want to receive information from a company. At the same time companies need to recognize that just because

they have an email address doesn't mean they have the permission to send messages constantly. Rather than considering whether a product or service is helping in maximizing their utility or not, consumers tend to focus more upon minimizing the risks associated with such products or services.

Thus, as per Mitchell (1999), one of the strongest determinants of behavior of a consumer is the subjective risk perception of the consumer. This is clearly evident with respect to adoption of innovations by the consumers. Consumers usually do not view innovations as a means to enhance utility of a product. Rather innovations are often viewed as a situation comprising of high risks and fewer returns. High risks are often associated with innovations because the users lack experience of using the new products so developed. Thus, the consumers try to minimize the risks in connection with some of the behavioral decisions.

However, perception of users towards risk while making behavioral decisions might result in rejection of innovation. One of the major risks related to mobile marketing is related to data security. Most of the users are concerned about various data security issues such as data manipulation, unnecessary tracking of patterns of data usage and unauthorized access to data. Another issue related to security is the privacy of consumers (Sultan *et. al.* 2009). The mobile marketing medium makes it possible for the business organizations to reach consumers in real time. On one hand, this makes the mobile marketing medium highly personalized for marketing while on the other hand, it also increases the fear of consumers with respect to privacy violations.

As per the views of Gao, Sultan, & Rohm (2010, p. 578), the variable risk acceptance can be defined as "the likelihood for respondents to provide personal information to online entities such as web sites". In this research, risk acceptance is defined as the extent to which the consumers are willing to provide information which is personal in nature, for entering into marketing promotions undertaken online, in order to receive gifts, procure future discounts and for entering into a contest. Sultan *et al.* (2012), have investigated that establishment of

trust between business organizations and consumers and providing them with a certain degree of control with respect to disclosure of information (which is personal in nature) in the online setting, might help in reducing various concerns over privacy.

Apart from the above, their studies related to privacy concerns in sharing personal information on mobiles have also investigated that privacy invasion and spamming are considered to be the central issues associated with willingness of the consumers to receive marketing advertisements and promotion on mobile phone devices.

However, the recent technological developments have led to a shift in the behavior of consumers. One such development is the popularity attained by various social networking sites for example Facebook has increased consumer tolerance towards risk. Sites such as Facebook have increased the willingness of the consumers to share personal information online. The reason behind this is perhaps the fact that people lack awareness about the risks and outcomes of posting information which is personal on such sites (Gao, Sultan, & Rohm, 2010). This information suggests that people are not very concerned about the privacy issues and they do not hesitate to share intimate and private concerns on various social networking sites.

Particularly the youth across the world has become much more tolerant towards risk arising from posting personal information online (Gross & Acquisti, 2005). Hence, risk tolerance and acceptance is a significant variable that must essentially be considered while investigating behavior of the consumers, specifically the young consumers in accepting mobile marketing. The reason for focusing upon the youth, is that this section of society is greatly engaged in online communication and thus, it is assumed that they will actively participate in the mobile marketing activities and take part in mobile offers and promotions (Silk, Klein, & Berndt, 2001). Despite major concerns about privacy in the mobile medium, a small number of empirical studies has been conducted in the past that investigates variables

such as risk acceptance and tolerance of consumers that define their willingness to engage themselves in activities related to mobile marketing.

Since privacy issues in online activities have been observed to affect consumer behavior and willingness to use websites (Malhotra, Kim, & Agarwal, 2004), this research proposes that increase in risk acceptance level will lead to increase in activities undertaken on a mobile platform.

2.15.2 Providing Information

One of the most significant uses of the mobile platform in relation to marketing is for spreading relevant information to the prospective or existing consumers (Kim, 2002). With the help of mobile phone devices, requisite information can be easily received or sent. Presenting requisite information related to the products and services to the consumers is the main objective of undertaking mobile marketing. Furthermore, mobile phone devices help in gathering a large volume of information without any hassle. This information is readily available as and when required. The majority of present day consumers are interested in establishing a direct contact and communication with the marketers of the business organizations, so that they are able to procure relevant information on time. As per Al-Meshal & Almotairi (2013, p. 3), mobile network "*allows people, marketers, and organizations to send and receive relevant information by providing demographic, geographic, and subscriber information*".

The same view is expressed by Gao, Sultan, & Rohm (2010), who state that information exchange tends to take place at a rapid pace with the advent of mobile technology. Furthermore, mobile marketing has presented the marketers with a relatively new and improved platform for marketing purposes and thus, Gao, Sultan, & Rohm (2010) state that mobile-related marketing activities such as provision of relevant information serve as a mediator, while determining the level of consumer acceptance of mobile marketing. From

the above information, it can be assumed that providing relevant information to the consumer affects their behavior towards mobile marketing acceptance.

2.15.3 Sharing Content

The level of customer acceptance also depends upon the ease, with which consumers can share relevant content and information. Most of the activities which are associated with mobile marketing are related to sending or receiving of appropriate and relevant information (Gao, Sultan, & Rohm, 2010). The majority of people (or rather the prospective or existing consumers in this case) are engaged in mobile marketing activities only to share relevant information and details about the products or services.

Hence, it is essential for business organizations that the marketing content they are circulating using the mobile phone channel, must be relevant so that it is accepted by the customers directly. The acceptance of content on digital channels was usually perceived by the customers as something that is disturbing, specifically by high involvement customers (Roach, 2009). However, some of them also viewed this content generated on a digital platform as something which is positive and helps in procuring relevant information. This positivity was shown by those customers who had low involvement in mobile related activities (Gao, Sultan, & Rohm, 2010).

Sharing of relevant information over mobile phone devices helps both the concerned parties, i.e. marketers and the ultimate consumers of the product. It becomes easy to explain the major issues that are faced by the consumer while using the product. This information indicates that sharing of content directly affects the behavior of consumers towards mobile marketing, provided particular information is shared among users and companies, which is supposed to be relevant for the consumer.

2.15.4 Accessing Content

Mobile marketing facilitates customers to access an increased amount of content related to the products or services that are being marketed using the mobile channel. As compared to traditional channels of marketing and electronic mail channel, marketing using mobile phone medium, allows different people to access relevant content as and when required. Studies done by Sultan *et al.* (2009) and Sultan *et al.* (2012) state that privacy content and information which is obtained from the users of mobile phone, is a serious concern that has the potential to be alleviated by various other factors.

Mobile devices, expectations and experiences are the three important factors on which the probability of accessing relevant information and content is dependent (Kavassalis *et al.* 2003). Mobile phones bring the ease of access of various types of information which helps them in making relevant decisions on time. The consumers usually expect that in this technological era, they must be able to access more information and content in a short period of time. Thus, from the above information, it can be assumed that ease of accessing content has an impact on mobile marketing acceptance of a consumer.

2.15.5 Personal Attachment

One of the variables which have been included to be tested for measuring the level of consumer acceptance of mobile marketing is personal attachment of the consumers to their mobile phones. The term personal attachment can be explained as the extent to which personalization of mobile phone devices is sought after by the consumers. The personalization of mobile phone devices can be observed from unique ringtones or music,

content and wallpapers set up by the users to project their mobile devices as an extension of their personal self.

Various studies associated with mobile devices and personal attachment have analyzed the role played by personal attachment variable on consumer acceptance. Examples of such studies include a study conducted on American youth in the United States by Harris Interactive (2007) or another study conducted by Kim (2002) on usage of mobile phone devices by Korean consumers, etc. These studies revolve around a central theme, that is, mobile phone devices are not merely a tool used for communication, but represent much more than this.

Moreover, the mobile phone devices can also be used to depict the personality of an individual by the setting up of personalized features in the personal mobile devices. In a study conducted by Peng & Spencer (2006), it was revealed that there is a positive relationship between the personalization of mobile phone devices and consumer acceptance of mobile marketing. Therefore, based on the availability of evidences (which are already established by past studies), that mobile phone devices form a fundamental part of personality of an individual and impact their behavior intent to accept mobile marketing interactions.

2.15.6 Perceived Value

Most research studies have suggested that consumers are likely to accept activities related to mobile marketing only when they identify some benefit from receiving messages related to marketing and advertising on their personal mobile phones (Kavassalis, *et al.* 2003). This suggestion is supported by a theoretical basis provided by an information economical model related to communication. Model proposed by Kavassalis *et al.* (2003), is based on the assumption that consumer of products and services is an active living being, who is known for taking decisions related to marketing stimuli perceived by him/her consciously. During

this entire process of decision making, the consumer is not just required to trade off his perception related to marketing activities against other activities but is also required to make a selection from varied sources of marketing and advertising. The central issue related to this problem of allocation is time constraint (Kaas, 1990).

As per the views presented by Kaas (1990), marketing stimuli is perceived by a consumer only when the marginal utility of advertising is more than the marginal utility derived as an outcome of devoting additional time to some other activity. From this, it can be implied that the attitude and behavior of a consumer towards mobile marketing will become increasingly positive if he perceives higher marketing utility. Apart from the above, the user and gratification theory also offers a detailed explanation about the utility viewpoint of mobile marketing and considers it as a prerequisite for consumer acceptance. As per this theory, selection and usage of media for gratification of specific needs is done by the consumers consciously. Three categories of requirements have been identified by Katz, Haas, & Gurevitch (1973) as the most significant requirements.

These requirements include needs pertaining to strengthening understanding, information and knowledge; needs pertaining to strengthening emotional, aesthetic and pleasurable experience and; lastly, the needs pertaining to strengthening connection with family and friends from across the world. This particular perception permits us to intricate the needs for perception of utility that can be obtained from a model called the information economical model related to communication. It has been further implied by uses and gratification theory that consumers will accept mobile marketing only when they perceive it as a prospect for gratification of information requirement, social acceptance and knowledge.

As per Al Khasawneh & Shuhaiber (2013) and Yang, Zhou, & Liu (2010), one of the motivating factors that influence consumer acceptance of mobile marketing can be said to be perceived utility. As per Merisavo *et al.* (2007, p. 67) the term perceived utility can be defined as "*the consumers' reflections on a mobile advertisement's usefulness, relevance, monetary*

incentives, and infotainment content". One of the most essential factors derived from the user and gratification approach is providing relevant information about the products being marketed. Providing correct and relevant information to the consumers helps them to react in a positive manner towards products and services (Liu, Sinkovics, Pezderka, & Haghirian 2012).

Another essential characteristic that drives behavior of consumers towards mobile marketing is entertainment (Parreño, Sanz-Blas, Ruiz-Mafé, & Aldás-Manzano, 2013). If marketing using mobile platform techniques such as SMS and MMS is perceived by a consumer as entertaining then the intention of the consumers to purchase the products marketed is likely to be enhanced (Scharl, Dickinger, & Murphy, 2005).

Liu, Sinkovics, Pezderka, & Haghirian (2012), explained that there is a positive relationship between informativeness and entertainment provided by mobile marketing with consumer acceptance of mobile marketing. While Al Khasawneh & Shuhaiber (2013) found that the perceived advertising value, and incentives of m-advertising messages are also found to be positively associated with consumer acceptance.

2.16 Technology Acceptance Models

Acceptance research typically studies users' decision to adopt a particular technology or service or their individual choice of media and pattern of media use at the individual level of analysis. However, acceptance research goes beyond pure description of the adoption process and seeks explanations of why a particular behavior may be observed at the individual level (Pedersen & Ling, 2003).

Literature on mobile marketing acceptance is dominated by the Technology Acceptance Model (TAM) (Davis 1989) (Davis, Bagozzi & Warshaw 1989) and various adaptations of

this model, have been inspired by other theories like the Theory of Reasoned Action (TRA) (Fishbein and Ajzen 1975) or by the Theory of Planned Behavior (Ajzen 1991) to name a few.

2.17 Technology Acceptance Model (TAM)

Davis (1989) created TAM to describe the final factors of consumer behaviour for acceptance of a wide range of computer technologies of the end-user. According to Tung *et al.* (2014) this theory was based on the TRA (Theory of Reasoned Action) devised by Ajzen and Fishbein (1980). The TAM which was initially created had 5 elements - perceived ease of use (PEOU), perceived usefulness (PU), attitude toward using (ATU), behavioural intention to use (BI), and behaviour system use. Wherein, PEOU refers to the consumers view that the utility of the particular system could be hassle free, PU refers to the consumer feeling that the use of the particular technology could enhance his/her performance at a job (Davis, 1989). PEOU and PU are considered to be the most important of the 5 elements, while ATU directly predicts the BI of the users.

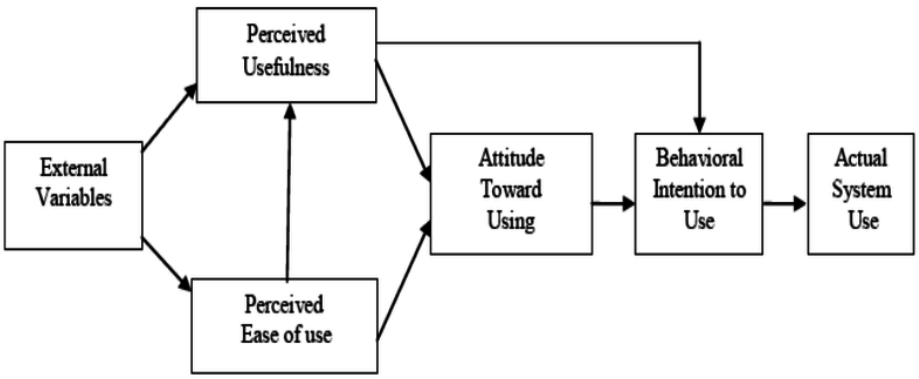

Figure 12 - Technology Acceptance Model

Source: (Park, 2009. p. 151)

The major goal of this model is to provide an explanation to the determinants of computer acceptance that is in general capable of explaining user behaviour across a broad range of end-user computing technologies and user populations, while at the same time the determinants are justified.

TAM is one of the most powerful, well known and robust models that predict the acceptance of users. This model theorizes the impact of external variables on the intention to use that is mediated by two major variables- perceived ease of use and perceived usefulness.

There are major assumptions of the model a) usage of technology is voluntary in nature; b) another assumption is that, if sufficient knowledge and time is given for a particular behavioural activity then the individual is likely to prefer to perform that activity. Lack of trust in online business prohibits many people to use the online services (Wu & Chen, 2005). Gefen (2000) explained that in the mobile marketing set up, familiarity, which comprises of an awareness of what, why, where, and when other parties do what they do, also contributes to trust. The trust could be built through communications.

In the case of mobile marketing, the concerns about personal information privacy and concerns on data security are some of the factors that influence the consumers trust in online technology. Benassi (1999) had stated that the privacy issue was the most prominent issue one faced by online consumers. Hence, the online commerce customers need more reassurance about their privacy protection and about the leakage of their personal information (Khalifa & Ning Shen, 2008). Further TAM, has some strong behavioral elements which assumes that if the intention to act is formed in an individual then he/she will be free to act (Park, 2009).

TAM has also been criticized by the researcher despite of being used frequently; this further led to the redefinition of the model by original researchers. Criticism of TAM is associated with the model's heuristic value, lack of practical value, predictive power and triviality. According to Park (2009) technology acceptance model has diverted the attention of researchers away from important issues and has also created an illusion associated with the progress. Further the efforts associated with extending the technology acceptance model have also led to confusion amongst the researchers.

In general, this model focuses on the user of technology along with the perceived usefulness and ignores all the important social processes associated with development and implementation of that information system. It has also been argued that the technology acceptance model does not consider the issues such as cost and other imperatives that encourage people to adopt technology (Park, 2009).

2.18 Technology Acceptance Model 2 (TAM 2)

TAM2 was an extended form of the TAM model that has been discussed above. This model was developed by two researchers -Venktash and Davis in 2000. The major goal of this model is to extend the Technology Acceptance Model (TAM) so as to include the determinants of perceived usefulness as well as usage intention in terms of both cognitive instrumental processes and social influence (Ventakesh & Davids, 2000). Secondly, this model also aims to determine and understand change in the effect of the determinants with an increase in the user experience over time.

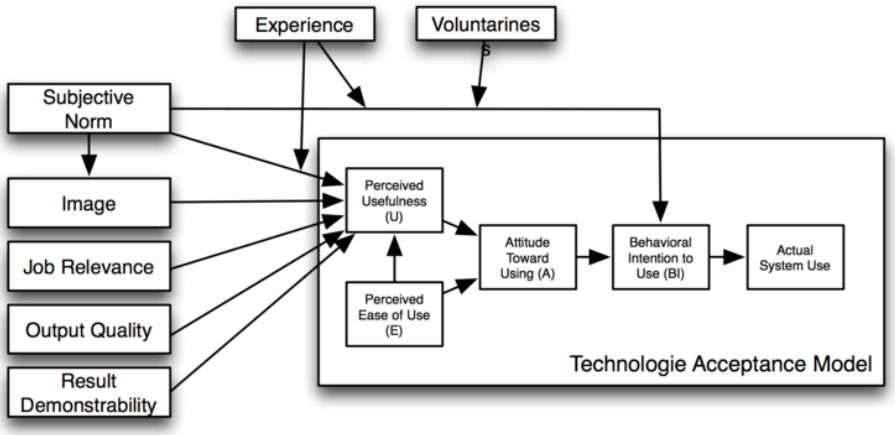

Figure 13 - Technology Acceptance Model 2

Source: (Kripanont, 2007 p. 56)

A better understanding of TAM 2 can enable the organizations to design effective organizational interventions which will increase the user acceptance as well as usage of new technologies (Venkatesh & Davids, 1996).

The social influence process and cognitive instrumental processes influence user acceptance. The social influence processes include subjective norms, image and the voluntariness. The cognitive instrumental processes include output quality, job relevance and perceived ease of use and the demonstrability of the result (Wu & Chou, 2011).

2.19 Augmented TAM or Combined TAM and TPB (C-TAMTPB)

Technology acceptance model does not focus on the impact of control and the social factors on the usage behavior of information technology. These factors however have influence on the usage behavior. The social and the control factors are important determinants of the 'Theory of Planned Behavior' that was given by Ajzen.

Taylor & Todd (1995) added two major factors- the perceived behavioral control and the subjective norm so as to provide the overview of the determinants associated with information technology usage. This model came to be known as the "Augmented TAM" or the "Combined TAM and TPB" (C-TAM-TPB) (Samaradiwakara & Gunawardena, 2014).

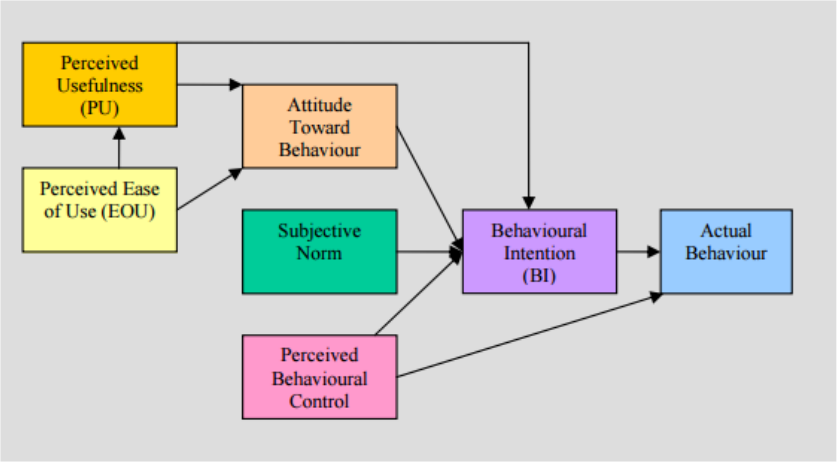

Figure 14 - Augmented TAM or Combined TAM and TPB

Source: (Kripanont, 2009, p. 14)

According to Taylor and Todd (1995), augmented TAM is one of the effective and adequate models associated with usage of information technology of both the inexperienced and experienced users. The "Augmented TAM" can be used for predicting the IT usage behavior of the people who have experience with the technology. In addition this model can also be used for predicting the IT usage behavior of the people who do not have a prior experience of systems and technology (Samaradiwakara & Gunawardena, 2014).

2.20 Innovations Diffusion Theory (IDT)

Innovations Diffusion Theory (IDT) is one of the important theories associated with innovation decision process. This theory has been used for understanding the innovation

decision process since 1950's. This theory was given by Everett Rogers in 1962. The innovation-decision process is the decision making unit through which the individual passes. Rogers (1995) fine-tuned the Innovation Diffusion Theory which focusses on the how, why and at what rate the innovative ideas and technologies spread in a social system.

The IDT doesn't focus on pursuing the individuals' to change, on the contrary it considers the change in itself primarily with regards to the reinvention of products and behaviors so they become better fits for the consumers' needs. In diffusion of innovations, the people do not change, but the innovations themselves (Robinson, 2009) . As per Rogers (2003), the diffusion in itself is a process in which the innovation is communicated through various channels amongst the persons of a social group. Diffusion has also been defined as the spread of technology across the various organizations by Fichman (2000).

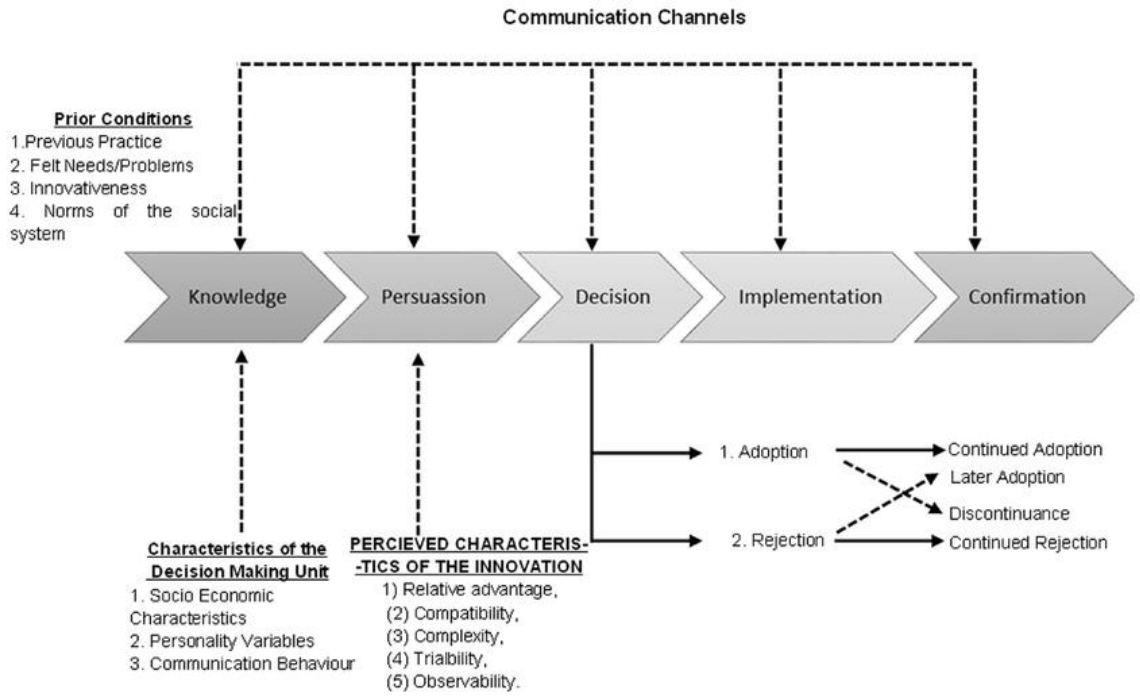

Figure 15 - Innovations Diffusion Theory

Source: (Lee, Hsieh, & Hsu, 2011, p. 42)

This includes five major stages as per the below figure– first, gaining knowledge of an innovation, second, developing attitude towards the innovation, third, making decision about the adoption or the rejection of innovation, fourth, implementing the newly adopted idea and fifth, conforming the decision (Lee, Hsieh, & Hsu, 2011).

The first stage of the model mentions the knowledge that an individual is exposed to understanding, gains and existence of the innovation. The second stage occurs when an individual develops a positive or negative attitude towards the innovation. The third stage of decision occurs when an individual actually becomes involved in the activities that further lead to the decision of adopting or rejecting the innovation. In the fourth stage of implementation the innovation is put into use by the individual. In the last stage of confirmation, individual seeks for the reinforcement of the decision that has already been made or the individual may reverse the previous decision of adoption of innovation (Aditiawarman, 2015).

In the stage of persuasion there are five major attributes that can persuade an individual for innovation adoption. These five attributes are as follows: compatibility, trial ability, complexity, relative advantage and the observability. Relative advantage can be defined as the extent to which an innovation is considered or perceived as better. The degree of relative advantage is however expressed in terms of economic profitability. Additionally, compatibility can be defined as the degree or the extent to which innovation is perceived or considered as consistent with the needs, past experiences and existing values of the customers. Complexity can be defined as the degree to which an innovation is considered as difficult in terms of using and understanding the same.

The complexity of innovation is however negatively associated with the rate of adoption. In other words, the more complex the innovation is, the less likely are the chances of its adoption. Further, trial ability can be defined as the extent to which an innovation can be experimented. Observability can be defined as the extent to which outcomes of an innovation

can be seen by others. The diffusion of innovation theory is one of the popular theories associated with the adoption of new system or technology (Lee, Hsieh, & Hsu, 2011). Communication systems are means that handles the flow of information between the users. A better and faster system would result in faster diffusion of innovations.

Rogers (2003) has divided the communication systems into Mass Media - media that could spread information faster and interpersonal channels - the ones that are most important for the spread of new innovations and technology. On the other hand, diffusion is a very social process that involves interpersonal communication relationships (Rogers, 2003). Tarde and Parsons (1903) proposed the patterned communication process which entails that the members of a society tend to imitate or duplicate something new, e.g., one observes the washing of hands and replicates the action.

Rogers (2003) classified the people in a society into five categories on the basis of their innovativeness (the degree of early adoption of new ideas vis-a-vis the other members). These categories display variability around the mean, when half of the target population has adopted an innovation (Kaasinen, 2005). The IDT helps in understanding the adoption of different innovations by target consumers. Ryan & Gross (1943) found five types of adopters (based on the time dimension) who adopt the technology/innovation in course of its diffusion into the social system. While the innovators are readily willing to imbibe new ideas and products, the laggards are sceptical about innovations. Rogers (1995) divided the adopters into five categories and assigned precise notional percentages for each segment. a. Innovators: 2.5% b. Early Adopters: 13.5% c. Early majority: 34% d. Late majority 34% e. Laggards 16%. However, the “20:60:20 Rule” is a good all-purpose rule of thumb fot this matter (Robinson, 2009).

2.21 Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) was developed by Ajzen and Fishbein in the year 1975. Theory of Reasoned Action (TRA) is known to be the backbone of studies that are associated with the relationship between attitude and behavior (Fishbein & Ajzen, 1975). In academics and business this model has been widely adopted. Theory of Reasoned Action (TRA) postulates that it is the belief that influences the social norms and the attitude that further shapes behavioral intention and behavior of the individual.

Intention can be defined as the cognitive representation of the readiness of the person to perform certain behavior (Shih & Fang, 2004). Behavioral intention is the immediate antecedent of the behavior of an individual. TRA has two major constructs or the determinants associated with intention (1) Attitude towards the behavior (ATB) (2) Subjective norms related to the behavior. ATB is the previous attitude of an individual towards performing a certain behavior. According to this theory, individuals critically think about their final decisions along with the possible outcomes before making the final decision of getting involved or not involved in a certain behavior.

The Theory of Reasoned Action (TRA) views intention of the people to perform a certain action or not as the major determinant of action. Attitude on the other hand is determined by evaluating the behavioral outcome and by the beliefs of the person. In this context it can be said that if an individual believes that performing a particular behavior will have positive outcome then that person will have a positive attitude towards the behavior. Similarly, if the person believes that the outcome of certain behavior will be negative then he/she will have a negative attitude for that behavior (Tao, 2008). Subjective norm (SN) is the second major construct of this particular theory; it can be defined as the social pressure that is exerted on the decision maker so as to perform a certain behavior.

Subjective norms can be referred to as the perception of the individuals regarding the likes and dislikes of other people. This indicates that person taking the decision will think what other people will think about the decision of performing certain behavior as well as what is the importance of other people. Therefore, it can be said that it is normal for the people to take into consideration the consultation of other people before making the final decision. TRA has become one of the popular models that are applied for predicting as well as explaining the behavior of consumers. TRA theory is one of the important theories that helps in studying the determinants associated with innovation and technology usage behavior (Armitage & Christian, 2014).

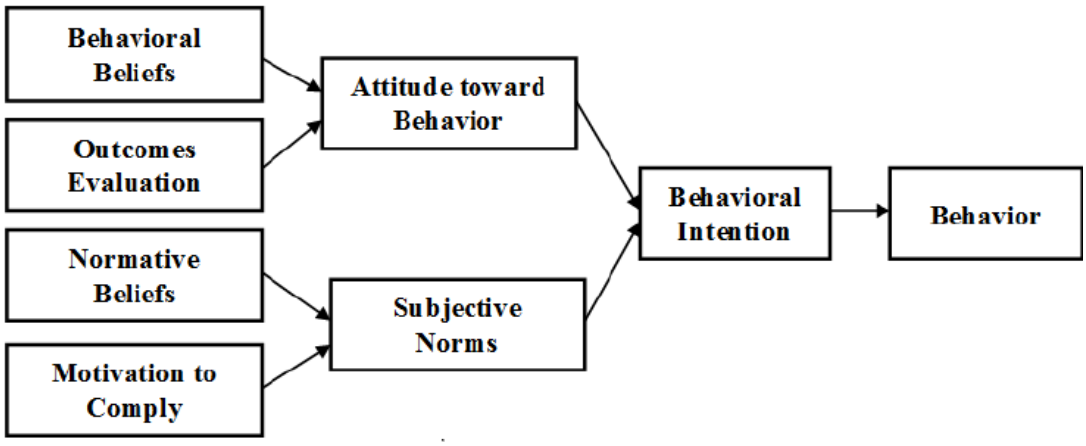

Figure 16 - Theory of Reasoned Action

Source: (Armitage & Christian, 2003 p. 184)

So, this model focused on four areas of behavior namely: behavioral attitude, subjective belief norms, intention to use and actual use. The subjective belief norms were the differentiators between the TRA and TAM. The normative belief referred to individual's perceptions of the use of internet banking by others (Shih & Fang, 2004). In addition, Pikkarainen et al. (2004) state that the Theory of Reasoned Action is a theory that assumes the consumer behaviour is rational and consumers gather and analyze information systematically.

One of the major problems associated with TRA is that it ignores the connection between individuals and the broader social structures that usually govern the social practices. TRA however determines the importance of the strategies and social norms but these are limited to the perceptions of individuals. Further the beliefs and attitudes of individuals are not differentiated effectively in the model. TRA also fails in terms of capturing the social processes associated with change (Al-Suqri, 2015).

2.22 The Theory of Planned Behavior (TPB)

The theory of planned behavior (TPB) is the extension of TRA that has been discussed above. This theory was developed because TRA has a limitation in context of dealing with the people's behavior in which people do not have the volitional control. TPB introduced the perceived behavior control (PBC) that is the third determinant of intention. The theory of planned behavior (TPB) was introduced in the year 1985 by Ajzen. The theory of planned behavior includes the construct of perceived behavior control (PBC), so that the situations in which people do not have the resources and control to behave freely can also be taken into consideration (Ajzen, 1985).

There are two types of behavior- deliberate behavior and the planned behavior. The theory of planned behavior (TPB) predicts the former type of behavior. Similar to the TRA in TPB also behavior is predicted by intention.

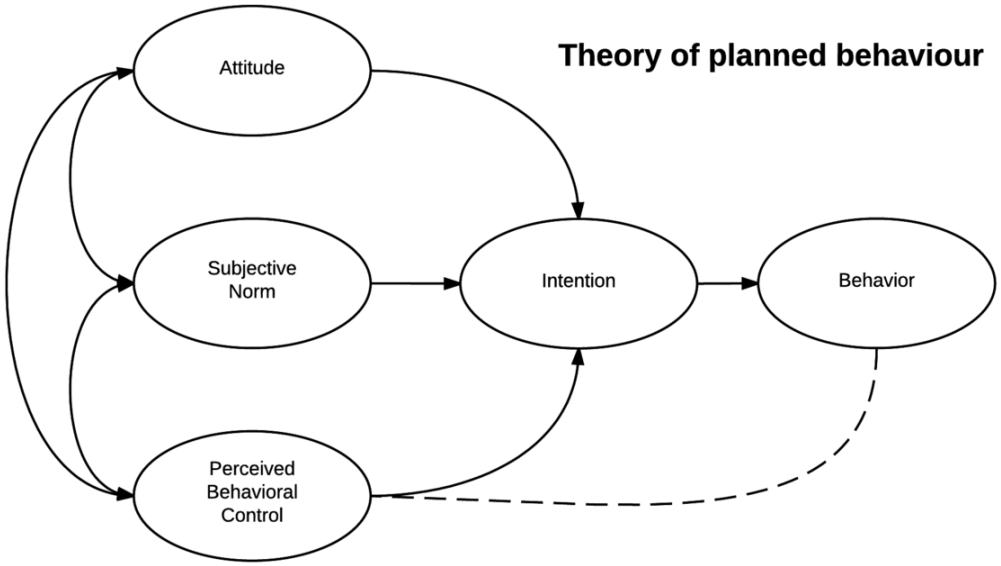

Figure 17 - Theory of Planned Behaviour

Source: (Russell & Cohn, 2012 p. 33)

There are three constructs in TPB that determine the intention, these constructs are listed below: Subjective norm, attitude towards a behavior and the PBC (Perceived Behavioral Control) (Russell & Cohn, 2012).

Perceived Behavioral Control is the construct that influences the intentions of people to behave in a certain manner. According to this theory, this is a general rule that it is more favorable such as the subjective norms and attitude along with a greater PBC, the intention to perform certain behavior is also stronger. In essence it can be indicated that if people are given a degree of control over their behavior, then the intentions will be carried out by the people only when the opportunity arises. Moreover, it is important to highlight that there are three kinds of beliefs that guide human behavior:

1-Behavioral beliefs –these beliefs are associated with the outcome of a behavior along with an evaluation of the outcomes. These beliefs also help in developing a positive or negative attitude towards a particular behavior.

2-Normative belief –this belief refers to the behavioral expectations of important groups and individuals such as friends, spouse, family, supervisor etc. Normative beliefs further lead to the development of subjective norms or the perceived social pressure.

3-Control belief – the last belief is the belief is associated with the presence of the factors that may help in facilitating the performance associated with a behavior.

If the three predictors or the constructs of the study – subjective norms, PBC and attitude is changed then there is a chance that the intention associated with a particular behavior will be increased, along with increasing the chances of a person actually behaving in a certain manner (Ajzen, 2014).

Shih & Fang (2004) compared the TRA model to both the pure traditional TPB and the decomposed TPB. Research showed that the decomposed TPB model had a significant positive outcome for demonstrating behavioral intention, attitude and subjective norms than the TRA and the pure TPB models. The decomposed TPB model is successful in predicting and explaining human behavior across various platforms and breaking outcomes down into specific dimensions.

Research indicates that the decomposed TPB model constructs provide leaders and marketing managers with an in-depth tool for understanding usage behavior, intention and adoption towards system implementation (Jaruwachirathanakul & Fink, 2005). Wang, Lin, and Luarn (2006) also make reference to the decomposed TPB model, which is an integrative model of the TAM, pure TPB and decomposed TPB models, stating that the decomposed TPB model

is significantly better than the TAM model (Chau & Hu, 2002; Chau & Hu, 2001). Having said this, the decomposed TPB model delivers a holistic analysis of usage behavior and intention, and is a more suitable guide than TAM to those searching for answers in the field of system implementation (Taylor & Todd, 1995).

Jaruwachirathanakul and Fink (2005) showed in a comparison between the Technology Acceptance Model (TAM) applied in Finland, versus three tested models in Taiwan (the pure and decomposed forms of Theory of Planned Behaviour (TPB) as well as the Theory of Reasoned Action (TRA)) that both the TPB and TRA models were a good fit to the tested data of their study. Based on the understanding of these models the research assignment will apply the decomposed TPB model.

The decomposed TPB model is most suitable for steering decision makers towards these innovations. The decomposed TPB model will provide insight into understanding consumers' individual attitudes, subjective norms and perceived behavioural control, which ultimately influences the likelihood of consumers using mbapps (Taylor & Todd, 1995).

According to Püschel *et al.* (2010) the decomposed TPB, as at 2010, was the most recent of innovation models developed, however, these have been primarily used in research. This study will use a modified version of the decomposed TPB model in order to fully meet the relevant and necessary objectives. A modified TPB model was used, as the original model included an additional construct, this being a measure on actual usage / adoption. Previous studies (Jaruwachirathanakul & Fink, 2005; Khalifa & Cheng, 2002; Ok & Shon, 2006; Shih & Fang, 2004; Tan & Teo, 2000) have also made use of modified versions. The justification for those authors using a modified decomposed TPB model is based on establishing only the intent of the RSA consumer to adopt and not to test the adoption thereof.

In addition, Pedersen and Ling (2003) specifically emphasize that traditional adoption models that are studied within an information systems context, such as the decomposed TPB

model, have the ability to be modified when applied to mobile adoption services, such as banking. As stated by Taylor and Todd (1995), the decomposed TPB model comprises three core factors (Attitude, Perceived Behavioural Control and Subjective Norms) that have a significant impact on human behaviour. Through this understanding marketers can potentially have clearer direction to their strategic objectives and reaching specific consumer markets.

2.23 Decomposed Theory of Planned Behavior (DTPB)

The Decomposed Theory of Planned Behavior (DTPB) is another technology acceptance model that was introduced in the year 1995 by Taylor and Todd. This particular model explores the dimensions associated with subjective norms, attitude beliefs as well as the perceived behavioral control by specifically decomposing the dimensions into the belief dimensions (Taylor & Todd, 1995).

According to DTPB, one of the primary determinants of the behavior is behavioral intention. However the three major constructs are the same- Subjective norms, attitude toward behavior and the perceived behavior control (PBC) (Sahli & Legohérel, 2014). According to Taylor and Todd (1995b), the attitudinal belief can be decomposed into three major factors- perceived ease of use, compatibility and perceived usefulness (PU).

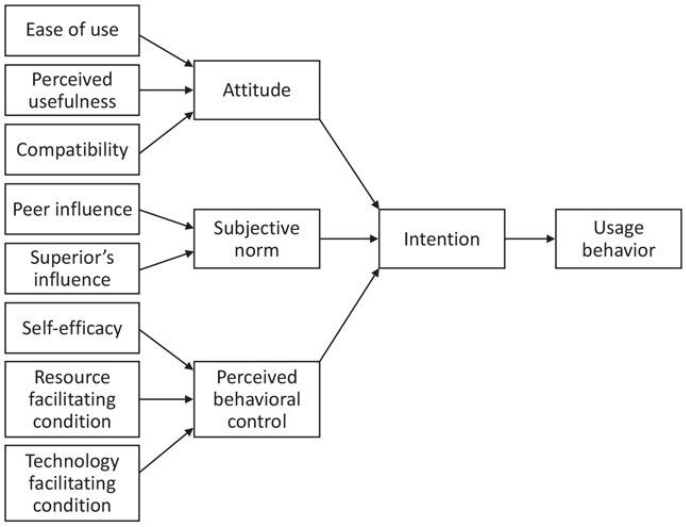

Figure 18 - Decomposed Theory of Planned Behaviour

Source: (Sahli & Legohérel, 2014 p.4)

The three factors listed above are related to the use of information technology. Normative belief is decomposed into two components- superior influence and peer influence. These two components have different views on the usage of information technology. For example: peers of the users may not use a particular technology or the system, because it may require changes in work processes. The superiors associated with the users might encourage the use of the system or the technology because of increased productivity (Tan & Teo, 2000). Normative belief can be further decomposed into two different reference groups- peer group and the superior group.

The expectations of both these groups can be different. Further, the perceived behavior control is decomposed into the following categories- self efficacy, technology and resource facilitating conditions. Self-efficacy is associated with the perceived ability and high self-efficacy will result in high level of behavioral intentions associated with the usage of information technology. The facilitating conditions further offer the dimensions associated with the resource factor and the technology factor. The resource facilitating condition includes time and money and technology facilitating factor include the technological issues

that may hinder the process of usage. If there will be no facilitating factors, then there will be some barriers associated with usage.

However, if the facilitating resources are present then the usage is not encouraged. The Decomposed theory of planned behavior has capabilities in context of explaining the behavior associated with usage (Wünderlich, 2009). Attitude is a very influential and important factor that is very strong in relation to the consumer behaviour (Malhotra, 2005; Oly Ndubisi & Sinti, 2006). A definition of attitude given by seminal theorists such as Fishbein and Ajzen (1975), refers to it as one's favourable or unfavourable predisposition towards behaviour within a given context. An attitude is directly related to one's behavioural intention (Ndubisi, 2018). Fishbein and Ajzen (1975) defined attitude as "attitude is a learnt predisposition responding in a consistently favourable or unfavourable manner with respect to a given object".

Taking this forward, Lutz (1980) explained that an "Object", when referred to in this context, is something such as a product brand, retail store, or in some instances an issue, person or behaviour in which consumers have a favourable or unfavourable attitude towards. Attitude could also explain the consumer's behavioural intentions thus making it an important factor in decision making from a marketing point of view (Lutz, 1980).

Taylor and Todd (1995) also mention that the attitudinal belief within innovation context includes five perceived elements: relative advantage, complexity, compatibility, observability and trialabilty (Rogers, 1983). As a result, one could say that the attitude towards mobile marketing is ones perception about the utility of the technique. These include the advantages, risks and privacy issues, and preferred features which shape attitude towards the adoption of mobile marketing (Taylor & Todd, 1995).

Perceived Behavioural Control:

There are two components that influence the Perceived Behavioural Control (Taylor & Todd, 1995) self-efficacy - that describes the user's self-esteem towards the ability to perform (Bandura, 1977, 1982). According to Hill *et al.* (1986), it can be a fairly important construct in forecasting intentions of use of the technology products.

Facilitating conditions - refer to the degree to which resources are available in order to perform or partake in the behaviour (Triandis, 1979). In terms of mobile marketing, the facilitating conditions could be divided into ease of access, speed of use and associated costs (Taylor & Todd, 1995).

Subjective Norms:

Subjective norms could be impacted by people as well as peer pressure of a specific social group that includes family, friends and individuals within the same social realm (Ajzen, 1985b). It's a powerful construct with an aim to measure the social influences on an individual's behaviour (Lutz, 1980). Moreover, Pedersen (2005) points out that subjective norms are important in predicting the customer intention to engage with mobile marketing.

2.24 Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh, Thong, and Xu (2016) introduced a theory of technology acceptance and usage with the name - Unified *Theory of Acceptance and Use of Technology (UTAUT).* This theory has four determinants associated with usage and intention and four moderators associated with the relationships. The four constructs that play an important role in context of determining the acceptance and usage of technology are – social influence, performance expectance, facilitating conditions and the performance expectance. The other determinants that have been theorized but are not the direct determinants of the intention are anxiety and self-efficacy (Williams, Rana, & Dwivedi, 2015).

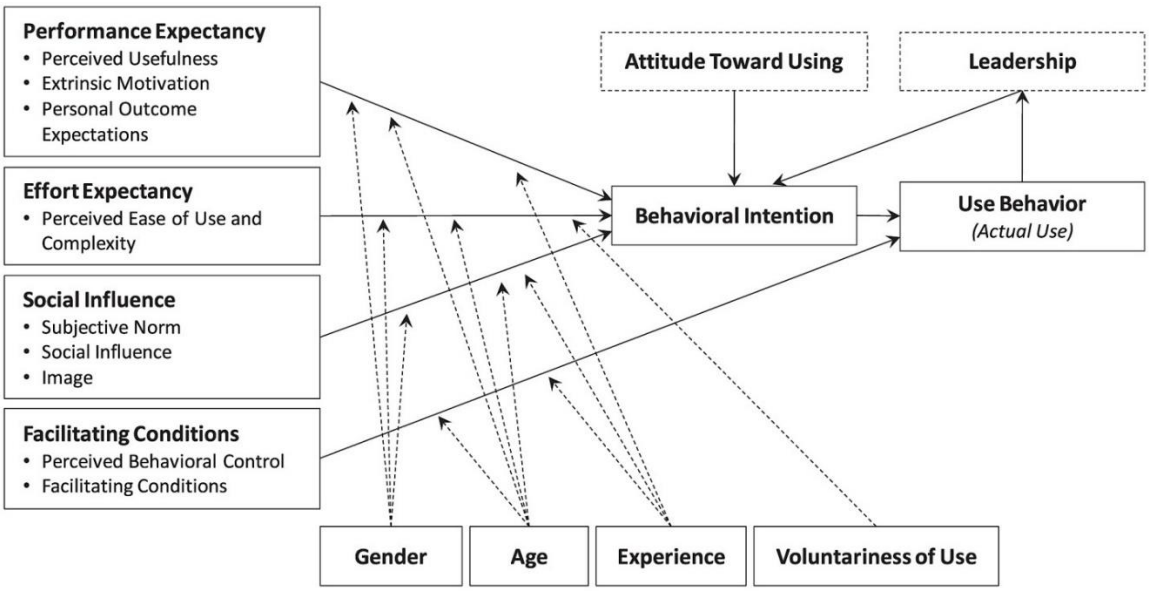

Figure 19 - Unified Theory of Acceptance and Use of Technology

Source: (Venkatesh *et al.* 2016, p. 136)

The key moderators of *Unified Theory of Acceptance and Use of Technology (UTAUT) are* – age, gender, experience and the voluntariness of use. This particular theory is an effective theory that offers a refined view of the determinants associated with behavior and intention. It is also important to highlight that most of the relationships in this particular model are moderated. One of the examples can be that, age in other research and theories associated with technology acceptance and usage have received less attention, but in UTAUT age is an important determinant that moderate the major relationships of the model.

Gender is another major determinant that has a moderating influence on relationships. Age and gender reflect a complex nature of the relationships and interactions therefore the future research may focus on investigating the interactions with these two moderating variables (Venkatesh, Thong, & Xu, 2016).

2.25 Social Cognitive Theory (SCT)

The Social Cognitive Theory (SCT) is the social foundation of the thoughts as well as actions. This theory was published in the year 1986 by Bandura. According to SCT, the functioning of a human being is the product or result of interplay between the three major types of influences- behavior, personal and the environmental influences. This theory states that the way in which the results are interpreted by the people of their own behavior informs as well as alters the environment and the personal factors which they have. As a result, people also inform and change their behavior. In this way, Bandura (1986) gave the foundation of the concept associated with reciprocal determinism, according to which the (1) personal factors in terms of biological events, affect and cognition (2) behavior (3) the environmental influences help in creating the interactions that finally result in the triadic reciprocity.

In order to differentiate the theory from present day learning theories as well as highlighting the importance of cognition in the social learning, Bandura changed the name of his theory to social cognitive theory from the social learning theory.

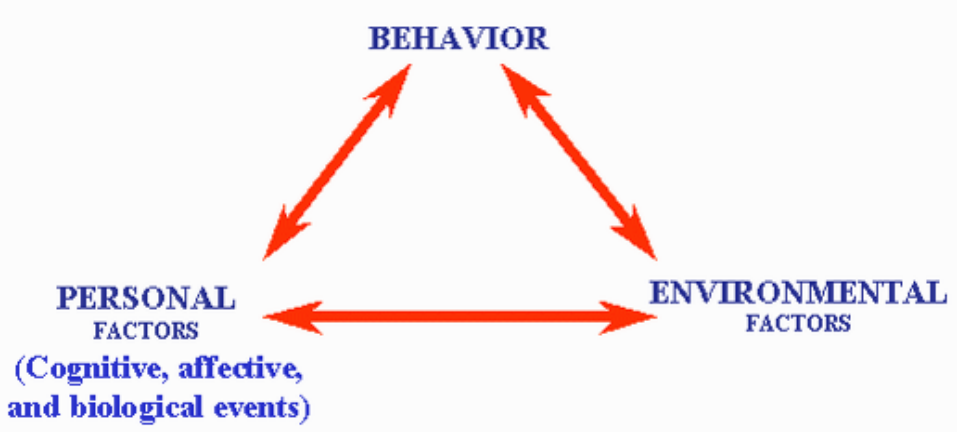

Figure 20 - Social Cognitive Theory

Source: (Bandura, 1986 p. 206)

This indicates that cognition has a crucial role in self-regulation, constructing the reality, performing the behavior as well as encoding the information (Bandura, 1986). This theory however has some limitations such as assuming that environmental changes will also lead to changes in the individual. However, this may not be always true. This theory is not organized effectively and is based only on the interplay between the environment, behavior and the person. It is also not clear in this theory that to what extent each of the factors is influential. Moreover, this theory does not focus on the motivation and the emotion of the people.

2.26 The Lazy User Model (LUM)

The Lazy User Model of solution selection (LUM) was proposed by Tétard and Collan in 2007. This model focuses on explaining how people select a solution from the alternatives so as to fulfill their needs. LUM postulates that a solution for the problem is selected from the set of solutions. In this context, the user selects the solution from the set of solutions that requires minimum effort (Tétard and Collan, 2007). The lazy user model is applicable to different type of situations, but generally it is linked with the technology acceptance models. In essence it can be said that the lazy user model associated with the solution selection explains how the *user* selects the solution, so as to fulfill his/her need i.e. *user need.* The set of solutions presented with the user are the part of the universal solutions that are *limited* or constrained by the *circumstances* or the user state.

This particular theory is based on the assumption associated with least efforts and least resistance. This theory is one of the great sources in determining how the products and services must be designed, so that the user can adopt them easily (Tétard & Collan, 2009).

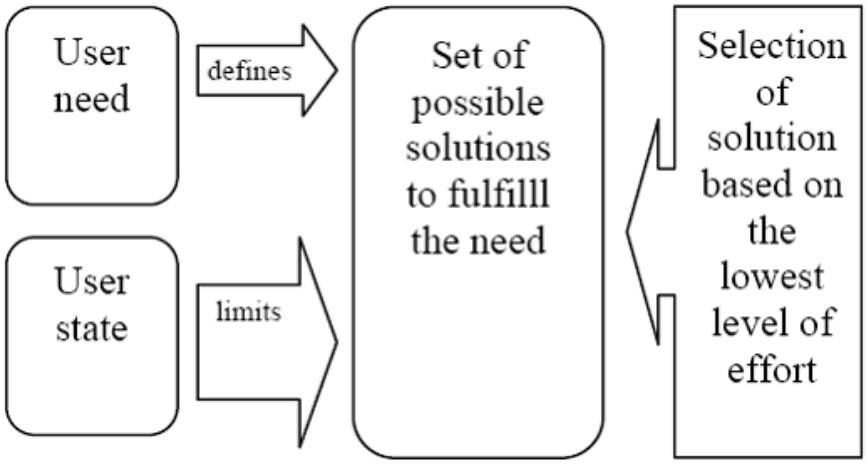

Figure 21 -The Lazy User Model

Source: (Tétard & Collan, 2009, p. 3)

The lazy user model also assumes that the user will select the solution for the set that will require low level of efforts from the user's side. Effort can be defined as the combination of time, money and the mental/physical efforts required (Tetard & Collan, 2009).

2.27 The Hedonic-Motivation System Adoption Model (HMSAM)

The Hedonic-Motivation System Adoption Model (HMSAM) is a theory associated with a native information system that helps in improving the understanding associated with the adoption of hedonic-motivation systems (HMS). Hedonic-motivation systems (HMS) are the systems that help in fulfilling the intrinsic motivation of the users for online shopping, online gaming, digital music, social networking, education etc, (Lowry & Gaskin, 2013).

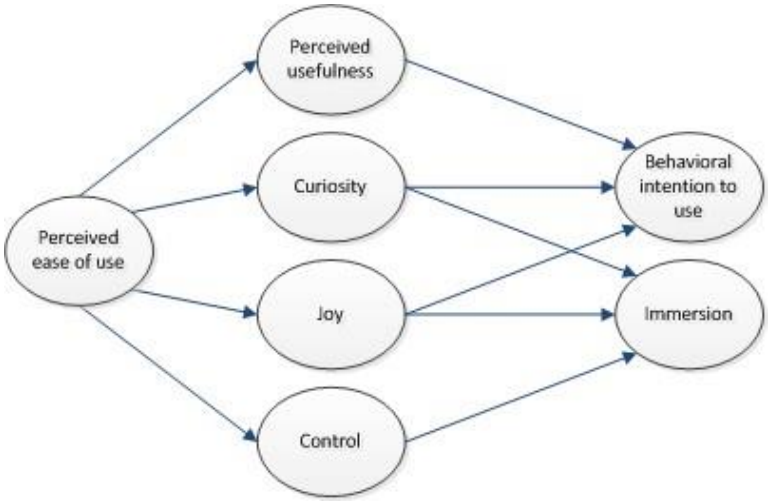

Figure 22 - The Hedonic-Motivation System Adoption Model

Source: (Lowry & Gaskin, 2013 p. 617)

The main dependent construct or the factor of HMSAM is immersion and the behavioral intention to use. The main independent factors of this model are control, curiosity, joy and the perceived usefulness. HMSAM is a system acceptance model that has alternative theoretical perspective as a result there is a cognitive absorption (CA). In HMSAM, CA (cognitive absorption) is the major mediator of PEOU (perceived ease of use) as well as the BIU (behavioral intentions to use), associated with the use of hedonic-motivation systems. In essence it can be said that HMSAM simply presents the intrinsic motivations. (Lowry & Gaskin, 2013).

2.28 Theories and Models compared

In this section, all the models presented above are compared and analyzed. The above theories and models can be grouped into three categories - 1) The Innovation Diffusion Theory (IDT), 2) The intention-based theories and 3) other theories such as the Social Cognitive Theory, Lazy User Model etc.

According to the Innovation Diffusion Theory, while making the decision associated with technology or the mobile usage, an individual will pass through five major stages as mentioned above (Figure 15)**.** According to the Intention Based Theories such as TAM and TAM 2, there are some facilitating conditions and the adoption of mobile technology will be dependent on the personal attitude and beliefs of the people towards the information system. TAM and TRA are the most important models of technology acceptance. The combination of these two models led to a structure that is based on three major constructs**:** perceived usefulness, behavior intention and the perceived ease of use.

In addition, the social norms are also important factor behind the usage and adoption of the technology. This indicates that the usefulness and ease of the use of the mobile along with the social pressure to use the mobile technology are the important determinants that will decide the usage and acceptance of the mobile technology. TAM however does not use social norms but TPB (Theory of Planned Behavior) has included social norms. It can be indicated that both the TAM and TPB can be applied to determine the acceptance and usage behavior of mobile technology. Both of these models are easy to apply and interpret. According to Mathieson (1991), both TPB and TAM effectively explain the concept of intention behind the usage and acceptance. During the system development, the author derived useful information from TPB and TAM which helped in deriving useful information after the implementation of the system.

Furthermore, it was also stated TPB helps in gaining information about the specific factors that may motivate the people to use or do not use the technology. TAM on the other hand helps in providing the general view of people's perception about the usage and acceptance of the mobile technology. TAM is also an easier and inexpensive way to gain an insight of the people's perception about technology acceptance (Mathieson, 2013).

If TAM is compared with both TPB and DTPB, then it can be said that DTPB has more advantages in comparison to other two models. This is because DTPB not only helps in

determining the beliefs that may or may not have impact on the mobile and technology usage and acceptance, but it also focuses on the additional factors that are absent in TAM. The additional factors such as the perceived behavior control and the perceived usefulness are important determinants associated with behavior. Therefore, it can be said that DTPB is an effective model among the TAM, TPB and DTPB in understanding the usage and adoption of the technology such as the mobile technology.

In addition, the DTPB model also helps in effectively understanding the behavioral intentions behind the usage and adoption of the technology. However, if the goal is only to predict the usage of information technology, then TAM is more advantageous. This is because the DTPB model provides a complete understanding associated with the determinants of intention. TAM and DTPB are effective in understanding the behavioral intentions and the usage but the later one provides the richest understanding associated with the same.

In conclusion, it can be said that all the models – TPB, DTPB and TAM are effective in terms of explaining the usage behavior of information technology. However, if the aspect of Behavioral Intention is considered TPB and DTPB are preferred in comparison of the TAM. DTPB provides an understanding associated with the behavior and behavioral intention by taking into account the control belief and the normative belief.

UTAUT is one of the best theories that can be used as a tool to determine the likelihood of success in the case of introducing technology. In addition, this theory also helps in gaining knowledge about the drivers associated with the acceptance of the technology. This can help in designing the interventions such as the training for people that do not easily adopt or use the mobile technologies. The literature also indicates that UTAUT is highly powerful in the context of explaining the usage and the behavior intention. This theory when compared is better than the previous as it gives a complete understanding associated with the drivers of behavior.

Another theory that was included in the literature related to usage and acceptance of technology is the social cognitive theory (SCT). One of the major unique features of this theory is that it focuses on the social influence as well as impact of the internal and external reinforcement. SCT is considered as an important theory, because it also considers the manner in which the individuals generally acquire as well as maintain a certain behavior. Moreover, SCT also considers past experiences that may decide the future usage and adoption of the technology. The past experiences are an important aspect because they have an influence on expectations, and reinforcements that shape the behavior of the people (Sultan *et al.* 2012).

Various studies have addressed the factors influencing consumer acceptance (Bauer, Reichardt, & Neumann, 2005); (Siau, Hong, & Fiona, 2005); (Haghirian, Madlberger, & Tanuskova, 2005). Major outcomes of these studies revealed that there are various factors such as: trust, sharing of information, risk consideration, perceived value and personal attachment that affect the acceptance behavior of consumers. Some of the research studies also found that there exists a high correlation between the skills of consumers and sense of controlling (which is generally related to use of internet, accessing information on products and undertaking online shopping) (Smutkupt, Krairit, & Khang, 2012). This corroborates the use of model used by Sultan *et al.* (2009) and Al-Meshal & Motairi (2013), and the variables used for this research.

2.29 Research Gap

The conceptualization and phenomenon of mobile marketing is still not fully explained. The researcher has defined and conceptualized the concept of mobile marketing according to their study context and situation. Hence this literature review might help researchers at least to understand the major category of mobile marketing in understanding the definition of mobile marketing.

The review of selected studies also may assist researchers towards applying the research approach in their study by providing common research approach employed in previous studies.

In all, despite of substantial amount of research in this field, the academic research in mobile marketing particularly that of higher education in the United Arabs still needs to be explored. There is still very scant research conducted in the area of trust, risk perception and policy. Varnali & Toker (2010) reveal that research in the field of m-acceptance is still inadequate. Since the research on the consumer's acceptance of mobile marketing is still limited, therefore it is a need for researchers to devote more attention and to explore this field especially in a different context of study.

2.30 Conclusion

This section has effectively focused on the literature associated with the user acceptance models and theories along with some basic concepts such as marketing, mobile technology, mobile marketing etc. The theories and models have been used in this research for developing a rich theoretical base for the study. Each of the theories and models discussed in this research had its own advantages and disadvantages and contributed to a better understanding of the developments of Mobile marketing acceptance situation.

The literature review on mobile marketing acceptance and technology acceptance models serve as guidelines to frame the research study and is used to explain the choices made in research design. The theories, scales and data collection methods used from previous studies are made used to support the process of Chapter 3.

3 CHAPTER III: RESEARCH DESIGN

3.1 Introduction

Research methodology describes how data is collected for the current research study (Schoonenboom & Johnson, 2017). The chapter outlines the research design adopted, especially the adoption of quantitative methodology. This aimed to achieve the proposed research objectives of verifying which factors influence higher education students acceptance of mobile marketing. In line with this objective, the present chapter defines the research design, research process, population, sampling method, sample used for the study and the data collection method in detail (Sekaran, 2003).

Furthermore, this chapter also adresses the statistical methods applied for the study, while also relating to the process of attaing reliability and validity. Data collection instruments employed for this study have also being discussed, whilst the chapter concludes with a summary.

3.2 Research process

According to Kothari (1990), the research process should be clear, rigorous, empirical and critical. The study was conducted in accordance to above author, in which eleven steps were identified and served as a guideline to this research.

The purposed steps are as follows: the first step was the (1) formulation of the research question (Chapter 1), followed by (2) an extensive literature review regarding the topic (Chapter 2). After the literature review was completed, the (3) hypotheses were formulated in accordance to the model and theories previosuly examined. The preparation of the (4) Research Design and (5) determining the sample design followed (Chapter 3). In addition, (6) data collection, (7) project execution, (8) data analysis; (9) testing the hypothesis; (10) creating the recommendations and conclusions (11) and finalizing the report and presenting the results (Chapter 4, 5). The aforementioned steps guided this research process and step (4) research design (5) sampling and (6) data collection will be the main focus of this chapter.

3.3 Research Design

A research design is essential for fulfilling research objectives and answering questions or hypotheses, since it is considered as an outline of the research (Pasgaard *et al*. 2017). Generally, an outline of a study is used as a guideline in gathering and analysing data. In this regard, a research design is considered as a "*structure for conducting consumer and marketing research*" (Hunt, 2003, p. 199), and also in information systems which draws the particulars of the assessment. Malhotra & Birks (2000) mentioned that research design is essential in gathering the important and relevant data needed to structure and answer marketing research problems and questions.

Also Sekaran (2003) stated that research design is a step that has a main goal of designing the research study, so that data can be gathered and then analyzed in order to arrive at a solution for a specific problem. Below are the design considerations and guidelines suggested by Sekaran (2003).

3.4 Research type

Typically, a study will be classified on the basis of their purpose and is known as explanatory research, descriptive or exploratory research (Saunders *et al.* 2012). An explanatory study refers to the study of a latest phenomenon, while exploratory research is explained through the flexibility it has (Sekaran, 2003). While the issue is vast, and not defined in a specific way, the researchers utilized exploratory research like the starting step. Exploratory studies will be valuable as a means to understand what would happen; for seeking fresh insights; for asking questions and for assessing phenomenon in a fresh light (Yin, 1994).

Exploratory research has an objective to formulate the issues in a precise fashion, to clarify the concepts, gather explanations and eliminate the impractical notions and development of hypotheses. Case studies, focus groups, interviews, and literature research will be generally

utilized for performing exploratory study. The exploratory research will help in the developemnt of hypotheses, while not aiming to test it (Dinesh, 2014). This study is required for descriptively analysing a specific phenomenom, in the hopes of offering clarification annd explanations regarding properties and inner relationships (Huczynski & Buchanan, 1991). This descriptive research would help in creating a very accurate profile of situations, events or people (Robson, 1993).

Descriptive research is not similar to exploratory research, one must first define research questions, survey specific people and utilize the analysis method before beginning data collection. Descriptive research in other words offers the research aspects definition of why, what, who, when, where and the manner of the study. This preparation allows the opportunity perform all necessary changes prior to the data collection process started. However, descriptive research must be decided as the means to an end than its own end (Yin, 1994).

According to Saunders *et al.* (2009), there are three essential logical procedures when it comes to adopting a research system, which includes Positivism, Interpretivism and Realism. Since there's an impact that follows any research within a business context, the researchers have to solely grant their time on deciding the research methodology to affirm positive changes in an organization or environment (Johnson & Clark, 2006). This research follows a positivism philosophy to highlight the existing intricacies and a scientific analysis is used to boost the perception of this present circumstance. An efficient device is used to establish connections among variables in the proposed framework and for isolating the different aspects having an impact on higher education students' acceptance of mobile marketing.

This study was also descriptive and explanatory in nature and it used a positivist paradigm that ensures that there is a gap between the researcher's subjective bias and the objective reality being studied. The quantitative research method was used in this study, which is a technique that makes use of mathematical representation, theories and hypotheses.

The researcher uses the quantitative technique, because this study covered a broad range of statistical techniques in analyzing the data which cannot be interpreted with a qualitative approach (Creswell, 2003). Whilst a qualitative approach is normally used to understand meanings and provide a text or image of the problem, which generally works under the use of observations, interviews or focus groups (Dinesh, 2014).

In light of this, research methodology can include two types of research views; deducative and inductive (Gill & Johnson, 2002). Adopting a deductive view means attempting to answer various research queries by examining numerous empirical data, thereby studying an existing research standard which serves to investigate the proposal research by putting it forward and arriving at a result. Saunders *et al.* (2007) used the onion research example to describe the type of studies found below.

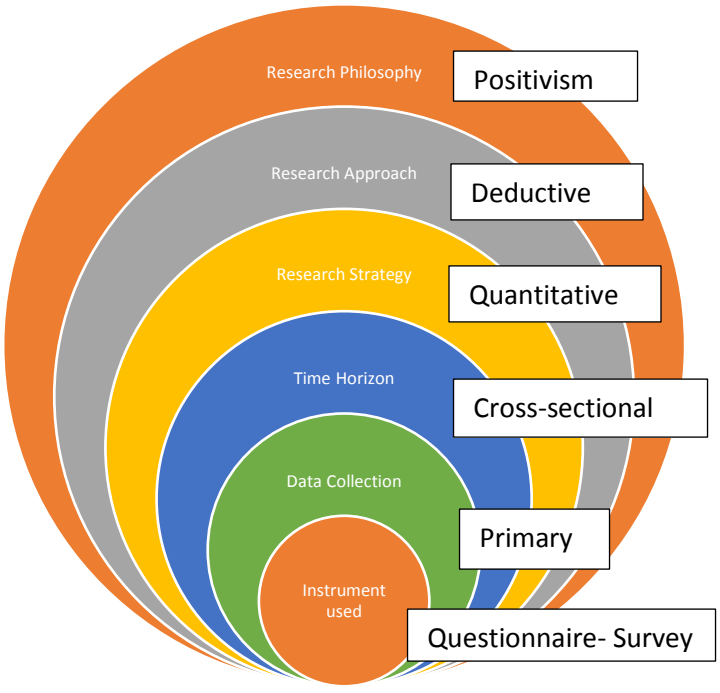

Figure 23 - Onion Research model

Source: (Adapted: Saunders *et al.* 2007, p.5)

The above figure (Figure-23), highlights the characteristics of this study, in accordance to the "onion research" developed by Saunders *et al.* (2007), in which five zones are used to describe the research model. This study then applies a positivistic, deductive, quantitative, cross-sectional, primary survey research, with the help of a questionnaire to measure the factors which influencing higher education students' acceptance of mobile marketing.

3.5 Quantitative Research Design

A quantitative method utilizing numerical information is employed in this study. Cooper & Schindler (2008) suggest that the essential goal of choosing a research methodology is to provide a solution nearest to perfection. The points governing the effective acceptance of mobile marketing by higher education students in the UAE are the marks of interest in this study. Since the study had formulated clear hypotheses with the aim to test the association between the research variables (providing information, sharing content, accessing content, personal attachments, perceived value, risk acceptance) with mobile marketing acceptance, the quantitative research design paved way for the study. There are major strengths of a quantitative research design, as it facilitates to identify research tools that are reliable, valid and generalizable to examine causes and effect (Creswell, 2003).

Therefore, quantitative research was also justifiable for this study, as ample research has been conducted in this area of consumer acceptance of mobile marketing (Sultan *et al*. 2012). To add to that, the use of quantitative research had the following advantages for the researcher. Firstly, it enables the researcher to develop clear research objectives, along with hypotheses based on previous studies. Secondly, it facilitates testing of the hypothesis and to achieve acceptance levels of reliability. Finally, the quantitative research design minimized the subjectivity of judgement.

3.6 Time horizon

Studies can be categorized as being either cross-sectional or longitudinal. Longitudinal studies involve data collection over two or more occasions in time, in order to answer the proposed research question (Kripnaunt, 2007). Since this research focuses on a one time data collection (or over a period of months to answer the research objectives proposed in Chapter 1), this study becomes cross-sectional in nature.

3.7 Study setting

According to Kripnaunt (2007), studies can be either non-contrived or contrived. A non-contrived research is done in the organization's natural environment, while a contrived study is said to be completed within a laboratory or an artificial setting. The study was done in a non-contrived manner, allowing the subject of the study to be in their natural environment.

3.8 Survey research Methodology

According to Crotty (1998), methodology is a strategy, action plan or design that allows the choice and use of methods to achieve a particular outcome. Also, Hussey & Hussey (1997), classify methodology as the research process overall approach that indicates why data is collected, by whom, what type of data, when it's collected, how it is collected and further analysed.

There are different types of methodologies, including experimental research, grounded theory or action research to mention a few (Creswell, 2002). Among the different types of methodologies, there is also survey research. Survey research methodology was the one considered to be the most appropriate for this study, since it draws a sample of subjects from the total population allowing to make inferences about the total. On the other hand, methods are considered to be techniques or procedures that can be used to relate the data collected and gathered to a research question or hypothesis (Crotty, 1998).

In this research, the method used to collect primary data was the questionnaire. The questionnaire method is one of the main methods used in surveys (Creswell, 2002). According to Sekaran (2003), observing, interviewing and conducting questionnaires are the possible methods used in survey research. Furthermore, Veal (2005) mentioned that questionnaires and interviews are methodologies used in order to conduct a survey research. The data source of this study is mainly primary (new information), even though it was necessary to use secondary data (existing information), gathered by use of relevant literature for this topic (see Chapter 2).

3.8.1 Questionnaire Method for the Survey

According to Sekaran (2000), a questionnaire is defined a group of pre-arranged written set of questions, where respondents state their answers typically within a close set of alternatives. The rationale for the use of a questionnaire method as a survey tool was as follows: it is an efficient mechanism and allows the researcher to know exactly what and how to measure the variables used. Also, previous studies of Sultan *et al.* (2009); Sultan *et al.* (2012) used questionnaires to measure the variables of interest. In addition, it allows the quantification regarding a specific population (Veal, 2000). Sekaran (2003) also futher pointed out that the advantage of administering a questionnaire to a large group of individuals at the same time, proved less time consuming and inexpensive than other methods.

Questionnaires can be conducted by a variety of means notably mail, phone or in person (Creswell, 2000). All techniques are viable to collect primary data and since some federal universities are scattered in different locations within the UAE, the following two options were used mail and face-to-face. This study then incorporated a mix mode survey approach of both a paper-based and an online questionnaire (Dillman *et al.* 2009). This allowed the respondents to complete the questionnaires at their own convenience. Survey research and mixed method survey was used in previous researches as example of Venakatesh & Morris, (2000), Hu *et al.* (1999) and Taylor & Todd (1995).

3.9 Questionnaire Design

The questionnaire was first developed with assistance of previous literature provided by Sultan *et al.* (2009), Sultan *et al.* (2012) and Bauer *et al.* (2005). The variables used in these particular studies served as a guide, in order to develop an effective questionnaire that could later be used in the survey. After collecting all necessary information, and according to Sekaran (2003), the researcher tried to minimize the bias influence and planned the wording, categorization, scales, coding of the responses and the final layout of the questionnaire. The design stage took place between the months of May and September 2017, giving the researcher the possibility of reviewing and piloting the questionnaire before it was administered. The in-depth literature review helped to obtain the variables which are used as the scales in this study. The conceptual model of Sultan *et al.* (2009) was used to obtain the variables for this study including risk acceptance, providing information, sharing content, accessing content, personal attachment, and mobile marketing acceptance. Furthermore, perceived value variable items were obtained from the study done by Sultan *et al.* (2012).

In order to ensure that the questionnaire was ready to be conducted, it was deemed necessary to do several revisions in terms of format, editing and reviews, and thus finally testing it. The pre-test allowed for mitigaton of research bias and reassurance regarding the questionanire readiness.

3.10 Pre-testing

The questionnaire was initially developed in English and then translated into Arabic. Furthermore, to get translation equivalence, the questionnaire was then back-translated into English (see Appedix B.). Saunders *et al.* (2007) suggested that a questionnaire is required to be piloted before it is subjected to a population for gathering data. A pilot study serves to test that respondents do not have any problem with the questionnaire contents.

Testing of the research questionnaire on a small sample of respondents to identify and remove possible vague questions is known as pre-testing. Conducting a pre-test is essential to get satisfaction on the questionnaire being framed and to achieve its various functions by the researcher. In addition, the data collected becomes relevant and as precise as possible, the target respondents can partake and co-operate and the data collection and analysis can proceed smoothly (Cooper & Schindler, 2003, p.320). The entire research questionnaire was analyzed in terms of word sequencing and layout. Problems related with the questionnaire were identified (mostly due to wording and meaning) during the pre-testing phase (to avoid comprehension problems, the questionnaire was made available in both English and Arabic).

The present pre-test problems associated with questionnaire content consisted of a few understanding issues among certain pre-test participants. Some respondents requested for additional explanatory detail regarding certain statements. One such example included the following, "Compared to the time I need to spend, the use of mobile marketing is worthwhile to me". In this particular case, examples of time where given (e.g., searching time, time spent etc.).

This pre-test was performed on an experimental basis and the researcher managed to identify and solve the issues which the pre-test participants experienced. In order to facilitate respondents understanding of the final draft of the questionanire, the researcher decided to include the revised enhancements to further provide clarity e.g. "Compared to the time (e.g., searching time, time spent), I need to spend, the use of mobile marketing is worthwhile to me". Pre-testing the questionnaire also highlighted the time needed by a respondent to finish the questionnaire. Furthermore, besides identifying and rectifying problem areas, the questionnaire pre-test ensured content validity and face validity in the study.

According to Churchil *et al.* (2010, p.251), the reasons for adopting a pre-test questionnaire are:

- It allows presenting a detailed check of the arranged analytical and statistical measures, allow the authors to evaluate the worth of planned analytical and statistical measures for the data. This helps the researcher to make appropriate changes in the data collection method, and this analyzed data led to the achievement of the main study.

- Time and cost effectiveness; the pre-testing is very helpful in offering supplementary information for the researcher to make decisions on whether to go forward with the aim of the main study.

- The amount of unexpected problems can be mitigated by using pre-testing, because this will be aid reformatting parts of the study and to overcome barriers that are identified by the pilot study.

Post validation and checking the reliability of the questionnaire was then conducted. The researcher piloted it among 20 respondents randomly selected at the Higher Colleges of Technology, with an average answer time between 5 to 10 minutes and with the possibility of answering it in either English or Arabic.

3.11 Authorization

As a form of respectful courtesy, the researcher tried to contact the main authors to request permission regarding the use and employment of previous established statements and questionnaire. The researcher emailed the authors of the study conducted by Fareena Sultan and Tony Gao (Sultan *et al.* 2012). Despite many emails and phone calls, the authors failed to reply and were unavailable. The variables of their study were then adopted and adapted to fit this study, since they are under free creative license rights. When it came to collecting data, the researcher asked verbal permission as courtesy as well to Dr. Jace Hargis (a former director of the UAE higher education system) to conduct the study in three main institutions.

One main advantage here was the fact that, since the researcher works for a higher education federal institution, it was deemed appopriate to use the internal servers and database of all higher education students currently studying in the UAE. The online email directory platform was useful to guarantee that all students were given equal opportunity to be part of the study. As per the Federal Government, data that comprises information regarding the UAE institutions is confidential. Despite that, it can be used without mentioning any particular form of personal information. Approval to conduct research is given automatically to all employees if in accordance to the UAE law, so no written authorizations are necessary, otherwise to explicit use or provide personal information it is required previous authorization from the Ministry of Higher Education.

3.12 Questionnaire creation

The questionnaire comprised of four main sections (see Appendix A). In Section I, the researcher added a control question to validate the questionnaire, "Do you use mobile marketing?". This question was used to verify if the respondents were part of our study sample. A question regarding the institution which students are currently attending was also added, "Which Federal University are you currently attending?". This question was useful to guarantee a minimum amount of respondents per institution (as mentioned in sample size calculation below).

The first section of the questionnaire was aimed at establishing the distribution of demographic information: including gender, age, level of study, geographical area, the respondents' current institution and socio-economic variables, including monthly income and types of residence. The demographic and socio-economic variables were added in a separate part of the questionnaire (top). According to previous studies conducted by Sultan *et al.* (2009), Sultan *et al.* (2012), and Al-Meshal & Almotairi (2013), demographic and socio-economic variables were also used to analyze the characteristics of the respondents.

The author has used the same distribution and intervals already established by those studies. An additional question was adapted from Ismail (2012), where the author verifies the types of mobile marketing services already in use. This question "Which Mobile Services do you use?", serves to provide a better understanding of the UAE panorama, by identifying which services are currently in use and thereby verifying those that have a better acceptance/use by higher education students.

Section II and III refers to the independent variables of interest in this study which are: Risk acceptance, sharing content, accessing information, providing information and perceived value and Personal attachment. The measurement that was used for the independent variables was adapted from established sources and previous studies conducted regarding our topic. The statements included for independent variables which were adapted from Bauer *et al.* (2005). The variable risk acceptance and personal attachment are part of the antecedent factors and were also used in previous studies conducted by Sultan *et al.* (2009); and Sultan *et al.* (2012).

Marketing related activities includes the other four independent variables such providing information, acessing content, sharing content and perceived value. The statements that construct the variables accessing information, providing information and sharing content were adapted from the studies conducted by Sultan *et al.* (2009). The exception in section three is the variable perceived value, which was adapted from the study of Sultan *et al.* (2012).

The last section (Section IV) of the questionnaire relates to the dependent variable and measures the mobile marketing acceptance. All items included in mobile marketing acceptance variable were adopted from Sultan *et al.* (2009). The following figure illustrates the Theoretical framework adopted in order to build the questionnaire.

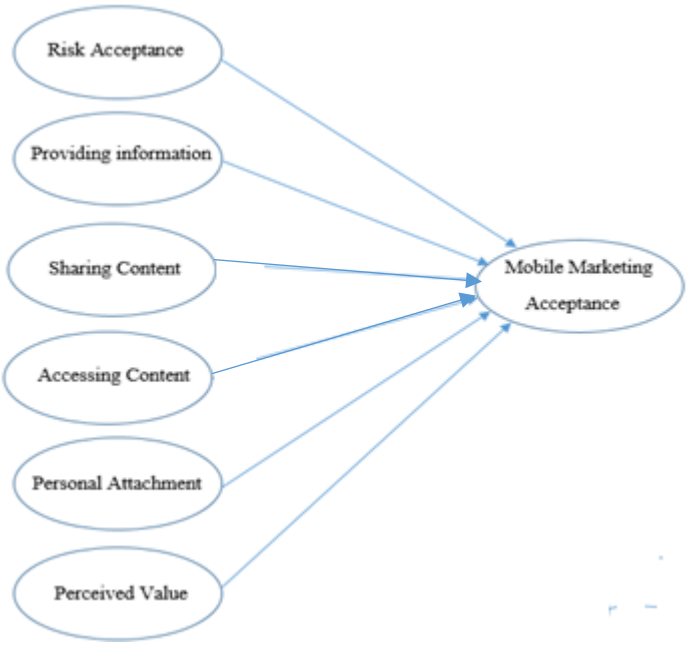

Figure 24 - Conceptual model used

The theoretical framework adopted uses variables from Sultan *et al.* (2009), Sultan *et al.* (2012), and Bauer *et al.* (2005). This questionnaire was then coded, and multi-item scales were then arranged to measure the aforementioned variables.

3.13 Constructs, Scales and coding

The use of nominal and ordinal variables were employed throughout the questionnaire. Nominal or categorical variables are used to name or label a series of data values that have no specific order (eg. female or male, using codes such as 0-1), while ordinal variables group information with relation to the order of choices (eg. education level- diploma, bachelors, masters and PhD) (Creswell, 2002). Likert scales are also an example of ordinal variables which request respondents to specify their level of agreement or disagreement with a sequence of statements on a 5-point scale (Hair *et al.* 2007). Likert scales formed the major part of this questionnaire.

Also, Zykmund (2003) refers to the possibility of converting ordinal and nominal variables into numerical codes of equivalence to the meaning measurement. Constructs are a set of operational measurements that are used to describe a theoretical concept (Yin, 2009). Variables are considered to be elements or factors that change or vary and can assume different classification roles depending on the researcher's intention on what is to be measured (Sekaran, 2000).

A dependent variable is one in which the researcher intends to study or the researcher is interested in, while an independent variable is a variable that is believed to have an impact or affect the dependent variable. The questionnaire was created as follows: Section I, incorporates nominal and ranking variables, while Section II, III, IV used Likert scales and were coded ranging from 1-strongly disagree to 5- strongly agree. This was the level of agreement with the statements provided.

3.14 Independent Variables

Both antecedent factors: Risk acceptance statements were coded as RA1, RA2, RA3 and Personal Attachment statements as P4, P5 and P6. These were measured by three statements each in Section II. Both constructs were then taken as the independent variables of the study.

Construct	Code/ Items	Reference
Risk Acceptance	RA1- I would provide a web site with personal information (such as my e-mail address) to receive a small gift	Extracted and Adapted from (Sultan *et al.* 2009); (Sultan et al. 2012) & (Bauer *et al.* 2005).
	RA2 - I would provide a web site with personal information (such as my e-mail address) to enter in a contest	
	RA3 - I would provide a web site with personal information (such as my e-mail address) to receive discounts on future purchases	

Table 1: Risk acceptance construct

The construct "Risk Acceptance" was previously used as an independent variable in the study of Sultan *et al.* (2009) . As per their view, risk acceptance reflects the ability of consumers to release or provide personal information to companies or websites. With regards to this study, "Risk acceptance" is used as the likelihood of higher education students will provide their personal information in order to enter contests, to receive promotions, gifts or discounts to an organization. Other researchers such as Malhotra *et al.* (2004), and Urban *et al.* (2000), have previously mentioned that the trust that consumers have in a company, together with the degree of choice in disclosing that information has an impact on reducing privacy concerns. Table 1 refers to the multi-item variable statements that were adopted for this study to measure risk acceptance.

Construct	Code /Items	Reference
Personal Attachment	P4- I like to customize my cellphone with interesting screen graphics or wallpaper/images, animations.	Extracted and Adapted from (Sultan *et al.,* (2009); & (Bauer *et al.* 2005)
	P5 - The way my cellphone looks and is designed is important to me.	
	P6 - I like to customize my cellphone with music, ringtones, images, etc.	

Table 2: Personal Attachment construct

The construct "Personal Attachment" was previously used as mediator variable in the study of Sultan *et al.* (2009). According to the authors, it reflects how consumers tailor or customize their mobile devices in a representation of the "self". The self-content personalization that is characterized in this study, reflects how higher education students include features such as ringtones, wallpapers or animations while using their mobile devices. It is assumed that personal attachment and the likes of consumers to personalize their devices, is related to how they accept mobile marketing interactions with an organization. Table 2 represents the multi-item scale used to measure personal attachment.

With exception to "Sharing content" (SC 7, SC 8,) that is measured by two statements only, all the other independent variables regarding mobile marketing related activities in Section III; Providing Information (PI 1, PI2, PI3), Accessing Content (AC 4, AC5, AC6) and Perceived value (PV 9, PV10, PV11) are constructed using three statements each. The constructs were then extracted as mobile related activities and incorporatd as independent variables.

Construct	Code /Items	Reference
Accessing Content	AC4- Download content (images, music, information) using my cellphone	Extracted and Adapted from (Sultan et al, 2009); (Sultan et al, 2012).
	AC5 - I would access fun and entertaining content such as music or games using my cellphone	
	AC6 - I would pay for content such as games or music for my cellphone	

Table 3: Accessing Content construct

The "Accessing content" construct was previously used as an independent variable in the study of Al-Meshal & Almotairi (2013), and per the authors it represents the likelihood of consumers to use mobile marketing content more than the traditional email. In this study, accessing content refers to the probability of higher education students to access different content to engage various in activities such as downloading images, accessing information or paying for any of those activities relying on their experiences and expectations. Table 3 represents the multi-item scale extracted to measure accessing content.

Construct	Code /Items	Reference
Providing information	PI1- I would provide my e-mail address to a web site using my cellphone	Extracted and Adapted from (Sultan *et al.* 2009); (Sultan *et al*. 2012).
	PI2 -I would register with a web site using my cellphone	
	PI3-I would register for a contest or promotion using my cellphone	

Table 4: Providing Information construct

The providing information construct was previously used as an independent variable in the study of Al-Meshal & Almotairi (2013), in which the authors refer to the likelihood of consumers to send or receive information, that includes demographic, geographic and information passed as a subscriber. Consumers that use mobile marketing are generally concerned with privacy and sharing their detail information. In this study, providing information construct refers to the possibility of higher education students to register or pass information to companies while using their mobile devices. Table 4 refers to the multi-item scale used to measure the providing information construct.

Construct	Code /Items	Reference
Perceived Value	PV9- When compared to the fee (e.g., application fee, registration fee, etc), I need to pay, the use of mobile marketing offers value for money.	Extracted and Adapted from (Sultan *et al.* 2012).
	PV10 - When compared to the effort (e.g., learn how to use), I need to put in, the use of mobile marketing is beneficial to me.	
	PV11- Compared to the time (e.g., searching time, time spent), I need to spend, the use of mobile marketing is worthwhile to me.	

Table 5: Perceived Value construct

Perceived value construct was previously used as an independent variable by Al-Meshal & Almotairi (2013). Sulltan *et al.* (2012) assumed that this construct is considered as a trade-off between what consumers receive versus what they have to sacrifice. That is, consumers who perceived benefits to be higher than sacrifices, will be more willing to accept mobile marketing. In this study, perceived value reflects the likelihood of higher education students using mobile marketing by comparing the benefits versus efforts they put in to engage in mobile marketing activities. Table 5 shows the multi-item scale used to measure the perceived value construct.

Construct	Code /Items	Reference
Sharing Content	SC7- Friends often send me cool downloads such as music or screen graphics (e.g., images, gifs, website links, etc) on my cellphone	Extracted and Adapted from (Sultan *et al.* 2009); (Sultan *et al.* 2012).
	SC8-I often send my friends new screen graphics (e.g., images, Gifs, website links, etc) or ringtones (e.g music files) on their cellphones.	

Table 6: Sharing Content construct

Sharing content construct was previously used as an independent variable by Al-Meshal & Motairi (2013). Sultan *et al.* (2009) mentioned that sharing content is the likelihood of consumers to engage in receiving and passing information to each other while using mobile devices. In this study, sharing content is defined as the possibility of higher education students to interact with (send and receive) digital content such as files, music and images through mobile devices. Table 6 refers to the multi-item scale used to measure sharing content.

3.15 Dependent variable

In Section IV, the construct Mobile Marketing Acceptance is measured by three statements (MMA 1, MMA2, MMA3) and then was extracted to be the dependent variable. Mobile marketing construct was previously used as a dependent variable in several studies like Sultan *et al.* (2009); Sultan *et al.* (2012) or Al-Meshal & Almotairi (2013). It was found that, that mobile marketing acceptance is characterized as the tendency of individual consumers to accept the use of new technologies and make a useful practice of them. In this study, mobile marketing acceptance is defined as the likelihood of higher education students to be willing to receive and accept the companies' diffusion of information. Table 7, outlines the multi-item scale used to measure mobile marketing acceptance.

Construct	Code /Items	Reference
Mobile Marketing Acceptance	MMA1- I would be willing to receive information on where to buy certain products or services on my cellphone	Extracted and Adapted from (Sultan *et al*. 2009); (Sultan *et al.* 2012).
	MMA2- I would be willing to receive offers on my cellphone from companies selling products related to an event I am attending (for instance, a sporting event)	
	MMA3- Overall, I would be willing to receive solicitations from companies to whom I gave my permission	

Table 7: Mobile Marketing Acceptance Construct

After all constructs, codes and scales were created, it was feasible to create the draft questionnaire that was going to measure the factors influencing higher education students to accept mobile marketing. The next step was to define the sampling unit to be used in the study.

3.16 Population and Sampling

According to Sekaran (2003), population is the entire group of people that we intend to investigate. The population of this study comprises of all students in federal higher education institutions in the the UAE that have used mobile marketing. There are three federal universities namely Zayed University, United Arab Emirates University and Higher Colleges of Technology.

The choice of federal universities was made since this study intends to examine the acceptance of mobile marketing of higher education students in the UAE. Local students both male and female generally attend government owned schools. The total number of higher education students is said to be more than 100,000 however, only 40,000 are nationals in Government universities, the rest is comprised of expatriates students (Statista, 2015). Previous studies conducted by Sultan *et al.* (2009), Sultan *et al.* (2012), Ismail (2016) and Al-Meshal & Almotairi (2013) have also used higher education students as part of their sampling unit.

3.17 Sample size

Sampling size is important since it is used to represent the population, plus it helps in the generalization of results (Roscoe, 1975). The same author proposed an example for rule of thumb that can be applied as follows: sample sizes more than 30 and less than 500 are generally appropriate for the majority of research. Since this study had a population in or around 40,000 higher education students, it is required to establish a sample size with a sufficient number of respondents taken from the population. This was to ensure representativeness and generalization of the data.

To secure that the preferred sample was more of a cross section of the whole statistically significant population, it became necessary to understand population size. Kerlinger (1986) was of the opinion that sampling involves the consideration of a section of the target population or universe to represent that particular population. The formula used by Saunders *et al.* (2007) was the basis for the determination of the size of the minimum sample. The sample size derived from this study was 402 respondents, which was considered significantly higher than the minimum sample size required (as per the sample size calculation presented below).

3.17.1 Sample size calculation

For a 95% confidence level, with a margin error of 5% (assuming a response distribution level of 50%, that is the most conservative approach), according to the website Raosoft (http://www.raosoft.com/samplesize.html), the sample should be of 381. It was also noted that for population higher than 20,000 (that is this research scenario), there is not a big impact on sample size. The following figure shows the calculation method extracted from the website.

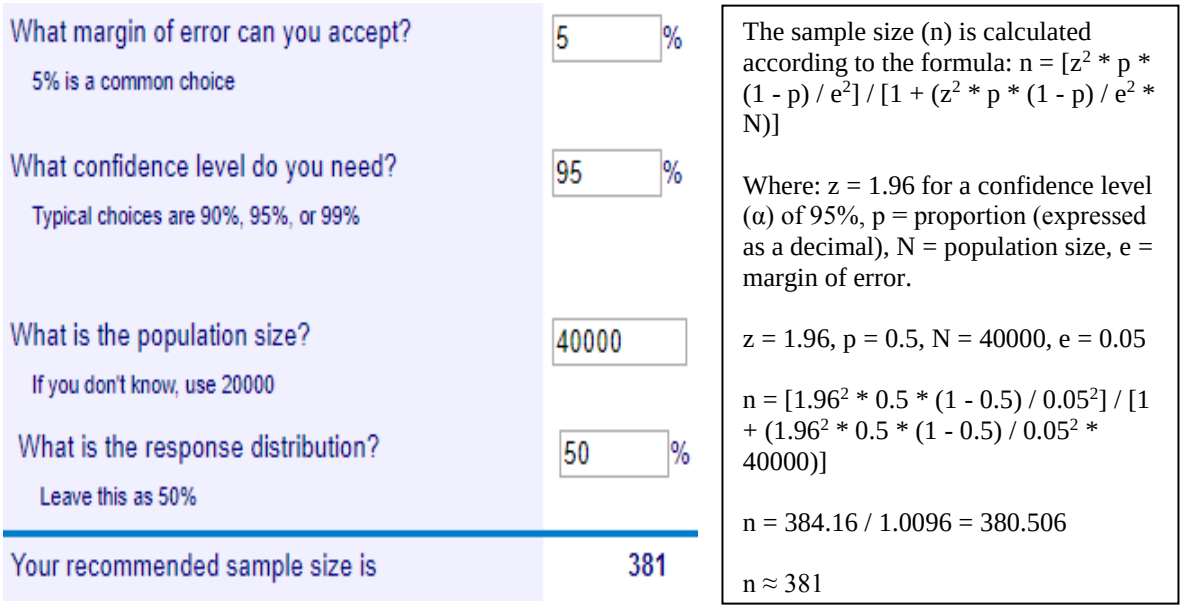

Figure 25 - Raosoft sample calculator

In accordance to Figure 25, and the calculations presented in the text box above, it's possible to conclude that the sample size (with finite population correction) is equal to 381, and that should be the minimum number of respondents gathered in order for the possibility to validate the sample and allow for sample generalization.

3.18 Sampling Method

An important decision for a quantitative study is to determine how the sample units are selected and such decisions are important for choosing the right sampling method (Creswell, 2000). The selection of non-probability and probability sampling methods depends on both practical and statistical considerations (Creswell, 2000).

On one side, non-probability sampling allows the research to easily select respondents, thus also being more cost-time effective by either using judgement, convenience or purposive sampling to mention a few. While probability sampling method facilitates the researcher to demonstrate the representativeness of a sample and allows the researcher to explicitly identify the variation introduced and the possible biases (Sekaran, 2003). There are different types of probability sampling methods like simple, systematic, stratified or cluster (Sekaran, 2003).

The present study adopted probability sampling method**,** whereby the researcher used stratified sampling method, meaning that the population is classified into subgroups and each of the subgroups were randomly selected. Each federal university category was considered as a stratum and in this manner, it would enhance the validity and reliability of the research findings (Shukla, 2008).

In previous studies of Sultan *et al.* (2009); Sultan *et al.* (2012); Al-Meshal & Almotairi (2013) and Ismail (2016), these authors used non-probability sampling, this has impacted the possibility of generalizing their results. In this study, the author could have opted for simple random sampling, but the fact that some federal universities are located in different emirates and the study isn't based on a single federal university, the study adopted stratified sampling in order to insure that all federal universities were represented.

The advantages of using stratified sampling in research gives the assurance of representativeness, comparison between strata and understanding between each stratum and also its unique characteristics (Shukla, 2008). According to Alvi (2016), for a heterogeneous population, it produces a representative sample as it captures the diversity which otherwise is likely to be undermined through simple random sampling or systematic random sampling. In this study three federal institutes were used (Higher Colleges of Technology, Zayed University and UAE University) and there was a need to establish a minimum number of respondents per college.

Higher Colleges of Technology (www.hct.ac.ae) is the biggest institution in the country comprising of approximately 18,000 students (45%), while Zayed University (www.zu.ac.ae) has around 10.000 (25%) and UAE University (www.uaeu.ac.ae) with 12,000 students (30%). The estimated population of 40.000 students was divided into three strata (corresponding to each institution) and weighted according to their number of students. Since the minimum sample size for the study previously established was 381 respondents, the researcher took a weighted average of the population for each stratum.

In this manner, the researcher wanted to give equal chance of selection of respondents, so that the strata would be collectively exhausted where no element of the population is excluded and mutually exclusive where a member of the population is only assigned to one of the strata (Lee *et al.* 1999). The following table represents the calculations taken based on the weighted average of each institution.

N=40.000
Number of stratum=3
Minimum Sample size for a 95% Confidence = 381 respondents
Higher Colleges of Technology (45%) = 172 respondents
Zayed University (25%) = 95 respondents
UAE University (30%) = 114 respondents

Table 8: Weighted average for each institution

As per the table, the minimum number of respondents per institution in order to insure representativeness of the data are as follows: 172 respondents for HCT, 95 respondents for Zayed University and 114 respondents for UAEU. To guarantee the representativeness of the data, a question was created in the questionnaire as follows "Which federal Institution are you currently attending?" (see Chapter 4).

3.19 Data Collection

Many aspects determine the choice of an instrument for data collection and this includes target population, desired rate of response, complexity of topic, time availability and the availability of resources (Collis & Hussey, 2003). Considering the large amount of respondents and the time frame limitation in this study, the mixed method approach to collectt data was chosen. The researcher was concerned with the data collection process, because it is difficult to obtain data from federal institutions using email.

In the initial stage, the survey was distributed to all students within the three institutions by using their internal directory servers to email students (as a reassurance that all students have the same possibility to participate in the study). After a low response rate (after the first month, only 240 valid surveys were collected), data collection was done personally within those stated institutions.

The following table describes the contact methods used in order to guarantee a stratified sampling method and the minimum amount of respondents per institution.

1st data collection method Stratified Sampling	Email (internal directory)–240 valid surveys received (95 from HCT students, 76 from ZU and 69 from UAEU). Date period from November to December 2017.
2nd data collection method Stratified Sampling	Personally (face-to-face) and with 2 interviewers (directly with students). A reminder email was sent to all students, and a location was agreed upon to meet those that would like to participate in the study. The researcher conducted the data collection in Abu Dhabi (Zayed University) and 2 contact points were used for data collection in Dubai (Higher Colleges of Technology) and Al Ain (UAE University). Date period: January 2018.
Data collection deadline	The data collection was complete when the minimum amount of respondents was attained. From the minimum required amount of 381 surveys, 402 valid surveys were collected.

Table 9: Data collection method

The survey employed both contact methods was then collected in three main areas (Abu Dhabi, Dubai and Al Ain), between November 2017 and January 2018. Table 9 helps to validate the sampling method chosen and allow for the generalization of the sampling results by using a stratified random probability sampling method.

3.20 Data Collection Procedure

One of the important aspects of this study is the choice of a primary data collection approach. This offers direct access to the participants, which allows for a reduction in error rates and helps to descrease any perceived bias on behalf of the researcher. In this study, the researcher had incorporated close-ended questions, which permited the collation of adequate information within a small budget and within a short time Creswell, (2003). Many researchers such as Nielsen & Tahir (2003); Rokhman (2011), and Colesca & Liliana (2009) adopted a similar approach to collect data from end users within the study. Results from the survey helped to test the study model and to further strengthen the understanding of the factors which influence the acceptance of mobile marketing.

3.21 Reliability and Validity of Measuring Instrument

The consistency of measurements is known as reliability, thereby confirming that the results should be obtained repeatedly with the application of a reliable instrument (Hair *et al.* 2006). In this study, reliability was attained by creating a questionnaire with two versions, notably Arabic and English. This questionnaire was then checked by a language expert to evaluate the text for question phrasing and sequencing. Furthermore, the researcher included the research questions from previous study questionnaires by a range of various authors. Construct reliability was employed in the study, in order to access all the observed variables that constitute a specific construct. According to Holmes & Smith (2011), this serves as a good indicator to measure the internal consistency of the measurements in question.

Finally, the researcher developed reliability by pre-testing the questionnaire on a small sample first. According to Zikmund *et al.* (2003), validity measures the accuracy that a specific scores represent a concept. Validity assures that the data reflects the phenomenon being studied, plus it highlights that the data gives a true picture of the reality.

Convergent validity is described by Cunningham *et al.* (2001, p.164) as "… *the extent to which different measurements are designed to tap the same construct correlating to each other*". In this study, convergent validity was verified by using statistical techniques such as SEM (Structural Equation Modeling), where relationships between observed variables and constructs are evaluated (see Chapter 4). Discriminant validity is defined by Malhotra et al. (2002) as a construct validity verifying that a measurement does not relate with other constructs that is supposed to differ.

The use of CFA (Confirmatory Factor Analysis) assisted in attaining a limited number of constructs and factors that correlate to each construct. In the same manner, construct validity can be verified by using indicators such as GFI (Goodness of Fit). This then allows the researcher to check if the model proposed is viable or to examine correlations between the variables of the study.

Pearson Correlation was used to test the correlations between the variables (Sauders *et al.* 2012). Content validity was used in this research to identify whether an instrument had measured what it needed to assess, given the condition in which it was useful (Babbie & Mouton, 2002). Content and face validity proves that the tool use in the study (survey) has the capability to drive the research. Face validity uses experts' opinion in the particular field to access the quality of the questionnaire.

In this study, three marketing experts have judged the items and questionnaire in full and minor revisions were included. The questionnaire was then pre-tested to a group similar to the one chosen for this particular study. The following table showcases the ways used to assure validity and reliability.

Instrument Reliability	-Creation of the questionnaire with an Arabic and English language possibility.
Construct Reliability	-Pre-test and pilot the questionnaire. Internal consistency among statements proved by Cronbach alpha (see Chapter 4).
Convergent Validity	-The use of Structural Equation Modelling, allowed to see the relationships among constructs and to evaluate them (See Chapter 4).
Discriminant Validity	-The use of Exploratory and Confirmatory Factor Analysis helped to attain a limit number of constructs/factors. Goodness of Fit was also used to attest the model. (See Chapter 4).
Content and face validity	-Opinions of marketing experts were used in order to access the questionnaire and its creation. The input received confirms that the questionnaire measures what it intends to measure.

Table 10: Reliability and validity

Table 10 highlights how reliability and validity was achieved throughout the study. The employement of data analysis and data analysis tools, specifically structural equation modelling, Pearson correlation, exploratory factor analysis and cronbach alpha assisted in achieving construct, convergent and discriminant vailidity. While marketing experts input helped in attaining content and face vailidity, instrument validity was accomplished by pre testing, piloting and translating the questionnaire before it was distributed.

3.22 Data Analysis

The analysis of obtained information through descriptive statistical measures was achieved by the study. Fink (2003) opined that "*statistics is the mathematics of organizing and interpreting numerical information*" (p. 25). Raw data secured from the questionnaire is recorded in Microsoft Office Excel 2007 spread sheet allowing for inferential and descriptive statistics to be conducted. The data was then passed to SPSS, where the researcher utilized the descriptive statistics to describe the basic model in the data (Neuman, 2006). Suresh (2015) emphasizes the importance of the SPSS software system package, commenting on its relative ease of use, its familiarity to several applied math consultants and its practicality.

Data coding and data editing were verified multiple times, but most importantly before running any test the author check for missing data. The use of SPSS allowed to verified for the occurrence of missing data, once the tests exctrated 402 valid cases, it was possible to guarantee that the analysis could be done properly.

The dimensions were later identified by factor analysis, while AMOS 5.0 helped to reconfirm the results of Exploratory Factor Analysis (EFA) through confirmatory factor analysis (CFA). The Structural Equation Modelling (SEM) procedure considered all items that were secured through CFA. The reliability of factors that were used was assessed by Cronbach's alpha, while SPSS version 20.0 came in useful for the analysis.

3.22.1 Microsoft Excel 2007

In order to produce and analyze the primary data collected, the researcher made use of Microsoft Excel. This tool was useful, as it calculated percentages and helped to create graphics which later aided to explain the data collected.

3.22.2 SPSS

The Statistical package for social sciences version 20.0 was used in order to undertake more complex statistical tests. SPSS is a system normally used for data analysis in marketing research (Saunders *et al.* 2012). It allows the researcher to check reliability of statements (Cronbach alpha), to measure relationships between the variables (Pearson Correlation), and predictors (Regression analysis) of the study variables.

3.22.3 AMOS

The Analysis of Moment Structure (AMOS) is a software distributed by SPSS, used to formulate the fitting of the data, which allows to verify and test the fitness of the proposed model (SEM) also helps in reducing or checking factors that prove unidimensionality of constructs (EFA and CFA) (Tanaka, 1993). In sum, it allowed the researcher to evaluate the model and verify how well the framework of the model fits (see chapter 4).

3.22.4 Percentage analysis

Percentages are executed so as to compare a series of data and to foretell their relationship. Because all factors ended up getting reduced to a common base, it was easy to carry out the comparison. Percentage Analysis is applied to create a contingency table from the frequency distribution and represent the collected data for better understanding (Neelakantan, 2012).

3.22.5 Cronbach's alpha

According to Fattah (2008), Cronbach's Alpha measures the reliability coefficients to measure the reliability and this is used in statistical packages like SPSS. Ranging between 0.01-1, Cronbach's Alpha values have a direct impact on reliability. When the value is higher, the reliability of the instrument and the questions that are framed in the questionnaire are

treated as being high in internal consistency. The opinion of the researcher was that Cronbach's Alpha can be used to measure the entire scales that were executed in the questionnaire. Cronbach's Alpha is an estimate of the score reliability based on the internal consistency among the [item] scores. Cronbach's Alpha can be viewed as a measurement to verify how sucessful the sum score on the selected items capture the expected score in the entire domain, even if that domain is heterogeneous (Manerikar & Manerikar, 2015).

3.22.6 Pearson Correlation

Pearson statistical tests was also conducted in order to evaluate the relationship between continuous variables. Positive values indicate and predict a directly proportional relationship between variables, whereas inverse proportionality is predicted from negative values of the test (-1 to 1). Hall *et al.* (2015) states that the Pearson's r coefficient or r 2 is often used in modern software packages available for data display and curve fitting. It is defined as the ratio of the covariance of two variables representing a set of numerical data, normalized to the square root of their variances. Pearson helped in verifying and establishing relationships between the study variables.

3.22.7 Regression analysis

Regression was used to find the association between independent and dependent variables (Pestana & Gageiro, 2008). Regression analyses are used to predict the value of a dependent variable based on the value of independent variable. This test allow the author to test the study hypothesis. Support and rejection of the hypothesis comes from the *b (beta coefficient)* value, which we can assume as the association between the variables used in this study.

3.23 Ethics

During all stages of the research, the researcher took into active consideration all ethical implications. All participants were assured of anonymity during the research. Participants who were volunteers to the research received complete confidentiality during the process. Information of a nature that could identify a person, such as name, phone number, address or email was sought from the participants (Saunders *et al.* 2009).

3.24 Summary

This research was conducted through explanatory descriptive design, positivist paradigm, deductive research approach and quantitative research strategy. The questionnaire was utilized as a primary data collection method in the research. The minimum sample size for this study was of 381 respondents as per the calculations showed above. The researcher used a stratified probability sampling method, which helped in the sampling generalization of the results provided in the next chapter. Reliability and validity of this study confirms that the questionnaire and data analysis follows the requirements standards to conduct such study.

The questionnaire was pre-tested and a pilot study was conducted before data collection within the target sample. Data collection used online and in face-to-face questionnaires, with the possibility of answering it in English or Arabic. The data analysis was completed by using various statistical analysis tools incorporated in the data analysis section (Chapter 4). Chapter 4 will not only present the results of the study, but provide a more indepth description of the statistical tests used in accordance to the methodology chapter.

4 CHAPTER IV- DATA ANALYSIS

4.1 Introduction

In this chapter, the researcher provides the results of the quantitative data gathered in the survey conducted among higher education students in the UAE between November 2017 and January 2018. The 402 valid questionnaires collected were first entered into an excel file and exported into SPSS 20.0 version. Thus, using SPSS software the present study results were analyzed. The population of higher education students was selected using a stratified sampling method taken based on the weighted average of each federal institution. This chapter aims a presenting the data analysis collected and relate it to the hypothesis and objectives of the study.

Chapter 4 includes the internal consistency of the data computed through reliability analysis using Cronbach's alpha value and Exploratory Factor Analysis (EFA), (that is a technique within factor analysis whose overarching goal is to identify the underlying relationships between measured variables). Structural Equation Modelling (SEM) was used to represent the relationship between variables using path diagrams allowing to build and test the conceptualmodel. The analysis carried out was based on percentage analysis to find out demographical and socio-economical information of the respondents.

Therefore, Descriptive statistics are used to summarize the data. Variables are expressed as mean ± standard deviation (mean ± SD). At the end of the chapter, Pearson correlation is used to find the association between variables and Regression analysis to predict the value of the independent variables on the dependent. The chapter concludes with the support/rejection of the hypothesis created and the discussion of the results.

4.2 Data analysis of the questionnaire

In this section, all the questions presented in the questionnaire are analysed. The questionnaire starts with a control question created in order to verify the use of mobile marketing. Despite the fact that data analysis normally starts with demographic analysis the researcher has chosen to start with the control question (to check which respondents are part of the study).

Next the researcher presents the question "Which Federal Institution are you attending?", that allows to divided students amongst their universities and contributes to validating the sample method chosen. Frequency tables and figures are use throughout the analysis to better illustrate the frequencies of the data set and their visual representation in percentages.

	Frequency (n)	Percentage (%)
Yes	402	99
No	4	1
Total	**406**	**100.0**

Table 11:Frequency of users of mobile marketing services

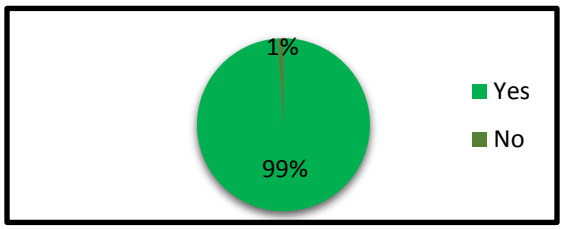

Figure 26 - Percentage of used mobile marketing services

Table 11 presents the frequency of mobile marketing services users. Majority 98.9% of the respondents used mobile marketing service while the rest of the respondents that they haven't used mobile marketing service respectively. From a total of a N=406 respondents, while using both online and in person questionnaires, 402 stated that they have used mobile marketing, while 4 mentioned that they have never used mobile marketing services. Taking in consideration the following table, the author has excluded 4 questionnaires from the total N=406, making the sample N=402.

It is important to mention also, that the minimum sample for this study (as per Chapter 3), was of 381 respondents, referring that, the 402 questionnaires collected are still above the minimum required and so the number of respondents is accepted for this study. The second question of the questionnaire stated "Which Federal University are you currently attending?". Meaning, the number of questionnaires taken from each university, this serves to guarantee the minimum sample requirements for stratified probability sample taken is acceptable for this study.

	Frequency (n)	Percentage (%)
HCT	181	45%
Zayed U	98	24%
UAEU	123	31%
Total	**402**	**100.0**

Table 12 - Number of students per University

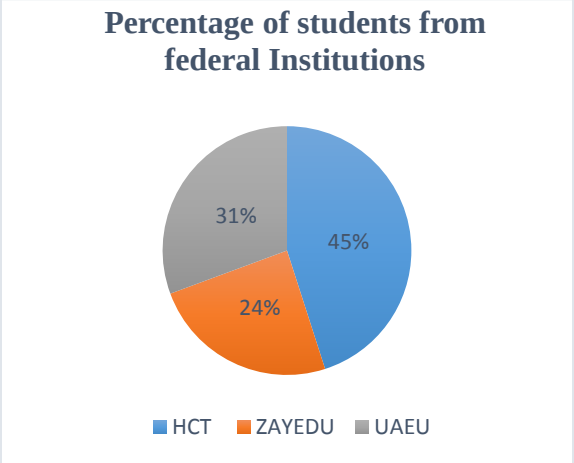

Figure 27 - Percentage of students per University

As per the table 12, the number of participants from this study was 402 comprised by Zayed University with 98 students (24%), UAE University with 123 students (31%) and Higher Colleges of Technology with 181 students (45%). Important to mention the minimum number of respondents per institution in order to validate the Stratified Sample method used was verified, since Zayed Univeristy 98>95, UAEU 123>114 and HCT 181>172 respondents. The calculations to guarantee stratified sampling method and weighted average were conducted in Chapter 3.

4.3 Demographic and Social-economic variables

The demographic and socio-economic variables used in the questionnaire were extracted, and adapted from the studies conducted by Sultan *et. al.* (2009) and Al-Meshal & Almotairi (2013). The questionnaire (as mentioned in Chapter 3), was developed using ordinal, interval and nominal scales. After analyzing the number of participants included in the study and guarantee that stratified sample method chosen met the criteria, demographic and socio-economic variables are analyzed.

4.3.1 Gender

Even though, gender was not part of the stratified sampling method used and both genders had the same probability of participating in this study, 204 women and 198 men took part in the survey. It was important that the data collected maintained a normal distribution and be representative of both genders (male and female). Sekaran (2003), mentioned that a minimum of 30 participants per group should be maintained for a normal distribution.

	Frequency (n)	**Percentage (%)**
Male	194	48.3
Female	208	51.7
Total	**402**	**100.0**

Table 13: Frequency of gender

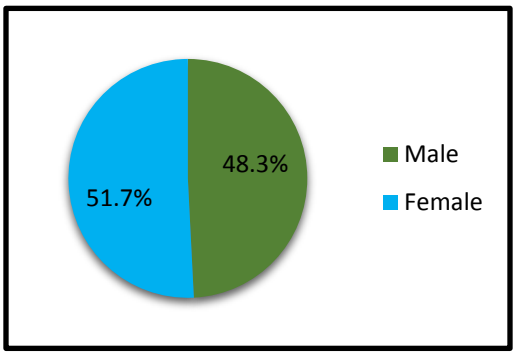

Figure 28 - Gender Percentages

Table 13 presents the gender of the respondents. Majority 51.7% of the respondents were female with n= 208, while rest of the respondents were male respectively 48.3% with an n=194. The table shows that the data collected is very even when it comes to gender, meaning that was not a big difference in gender participation in the study and both genders are well represented in the study.

4.3.2 Age

Table 14 presents the age group of the respondents. Majority 29.3% of the respondent's age group between 26-30 years followed by, 27.9% of the respondent's age group between 31-35 years. The next interval had a 26.4% of the respondent's age lowers than 25 years, while 16.4% of the respondent's age group was above 35 years respectively.

	Frequency (n)	Percentage (%)
<=25 years	106	26.4
26-30 years	118	29.3
31-35 years	112	27.9
Above 35 years	66	16.4
Total	**402**	**100.0**

Table 14: Frequency of age group

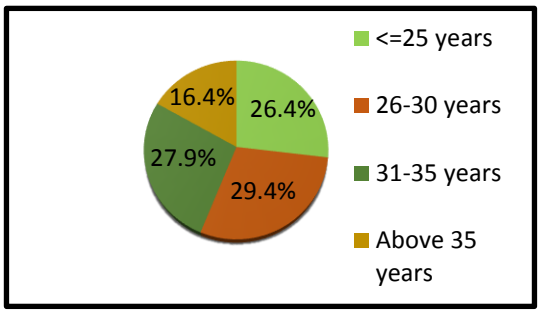

Figure 29 - Age groups percentages

When it came to group the variable age, the author as decided to group it in 4 main intervals. The study conducted represents only higher education students and the majority of respondents were between age groups of 18 (consider the normal age to enter college), and couple of outliers till the age of 45. Comprising then the age group majorly between less than 25 and more than 35 years. Figure 3 represents the age percentage for the 4 main group ages intervals. As per the table, the majority 83.6% of the respondents are included from 18-35 years, and only 66 participants with a 16.4% are above 35 years. The average age of the participants was 26 years old.

The biggest interval was composed by respondents between 26-30 with 118 respondents (29.4%) and the lowest composed by respondents with more than 35 years with 66 respondents (16.4%) Despite of, the possibility of calculating intervals using statistical techniques (that will give different intervals), this study assumed the same intervals used in previous studies by Al-Meshal & Almotairi (2013). Furthermore, and according to Pallant (2005), the rule of thumb for groups to guarantee a normal distribution is n>30 per each group.

4.3.3 Education

According to the UAE Government (2015) and the Ministry of Higher Education, the higher education sector is categorized by the following levels: Diploma (2 years exit into Bachelor's), Bachelor degrees (between 3 to 5 years), Master's degrees (1 to 2 years) and PhD's (minimum of 3 years).

	Frequency (n)	Percentage (%)
Diploma degree	149	37.1
Bachelor degree	119	29.6
Master degree	102	25.3
PhD degree	32	8.0
Total	**402**	**100.0**

Table 15: Frequency of educational level

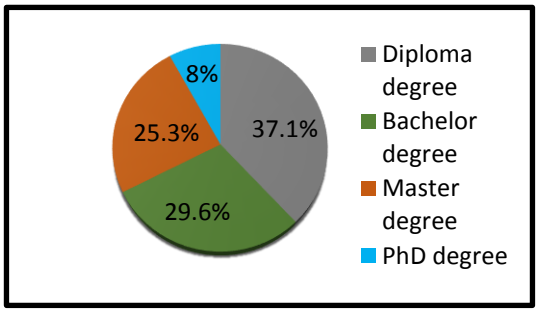

Figure 30 - Educational level Percentage

Figure 30 presents the educational level of the respondents. Majority 37.1% of the respondents are attending a diploma degree followed by, 29.6% of the respondents pursuing a bachelor degree. Nonetheless, 25.3% of the respondents are doing a master degree while only 8% of the respondents are enrolled in a PhD degree respectively.

Table 15 highlights the frequencies, majority of respondents (149) stated that they attend a diploma (diploma degrees have a 2 year exit into bachelors), 119 were attending a bachelor degree, 102 respondents were completing a master's program while 32 are in a PhD level. As per the table we can assume that the vast majority of participants are at the undergraduate level (66.7%) and only 33.3% are at graduate programs. There are more than n=30 respondents per category, which indicates a good representativeness of all educational levels present in higher education. The data demonstrates then a normal distribution.

4.3.4 Geographical

The seven emirates of the UAE are: Abu Dhabi (Capital), Dubai, Sharjah, Fujairah, Ras al Kaimah, Umm Al Quwain and Ajman. Smaller cities and rural areas also comprised the country. Abu Dhabi and Dubai are the areas with more concentration of people per square meter and englobe more than 50% of the total population.

	Frequency (n)	Percentage (%)
Abu Dhabi	80	19.9
Dubai	75	18.7
Sharjah	62	15.4
RAK	38	9.5
Ajman	32	8
Fujairah	61	15.3
Umm Al Quwain	54	13.4
Total	**402**	**100.0**

Table 16: Frequency of Geographical area (live)

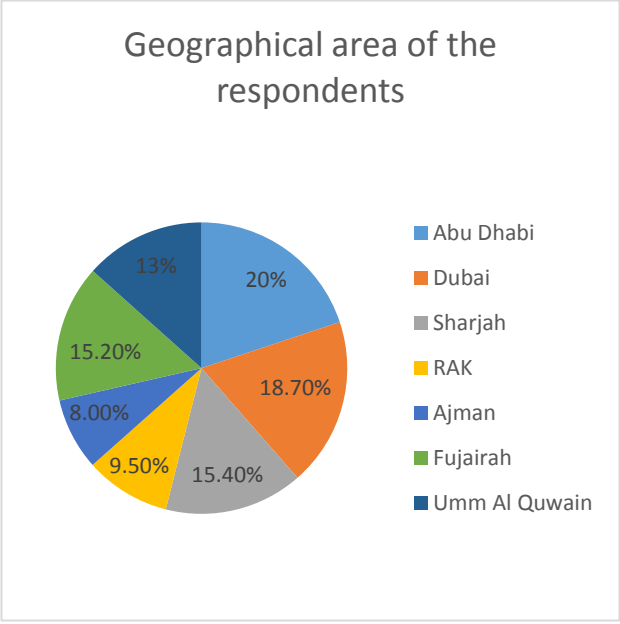

Figure 31 - Percentage of Geographical ares of the respondents

Table 16 presents the Geographical area (live) where the respondents come from. Majority 19.9% of the respondents live in Abu Dhabi followed by, 18.7% of the respondents that make their living in Dubai. Around 15.4% of the respondents stated that they live in Sharjah and 15.2 % in Fujairah. Additionally, 9.5% of the respondents live in RAK and 54 respondents live in Umm Al Quwain area, respresenting 13.4% of the total. The smallest percentage (7.2%) of the respondents live in Ajman with a n=32 respondents. Abu Dhabi and Dubai are the biggest emirates in the country, so it is normal that the majority of respondents come from this locations (80 respondents and 75 respectively).

4.3.5 Income

According to the World Bank (2017), the UAE appears with an estimate of 38 thousand dollars GDP per capita. Meaning, the power of purchase at an economical level in the country is relatively high. It is also stated that the UAE is one of the top countries in the world with more disposable income and purchasing power. Table 17 presents the income level distribution of the respondents. The majority 22.1% of the respondents are earning between 15001-20000AED followed by, 21.9.% of the respondents that are earning between 10001-15000AED. Furthermore, 18.9% of the respondents have less than 5000 aed monthly. The last interval comprises respondents that have more than 20001AED per month and it has a frequency number of 70 and corresponding to 17.4%.

	Frequency (n)	**Percentage (%)**
0-5000 AED	76	18.9
5001-10000 AED	79	19.7
10001-15000 AED	88	21.9
15001-20000 AED	89	22.1
More than 20001	70	17.4
Total	**402**	**100.0**

Table 17: Frequency of Income

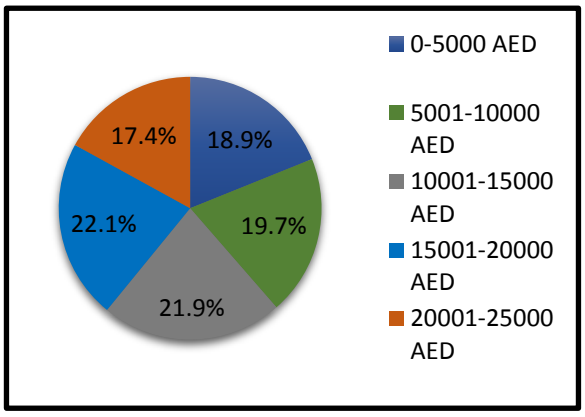

Figure 32 - Distribution of income by respondents

Income of students can be associated to scholarships, jobs, parents' money or private savings. All respondents' answers were comprised between 0 to more than 20001 aed. Where 247 respondents have said to earn more than 10.000 aed per month and 155 stated earning less than that amount. That highlights and relates to the higher disposable income generally associated to the United Arab Emirates. When converting AED-EURO[1] currencies, it is possible to verify the high income level presented by the UAE students, were the high majority states e.g. having more than 2.000 euros per month (as per convertion rate).

4.3.6 Household

According to the UN (2015), the household in the UAE are aggregated by family, friends, single (alone), husband-wife and others different types of living situations (e.g sharing accommodation).

	Frequency (n)	Percentage (%)
Alone	89	22.1
Family	95	23.6
Friends	80	19.9
Husband/Spouse	93	23.2
Others	45	11.2
Total	**402**	**100.0**

Table 18: Frequency of household

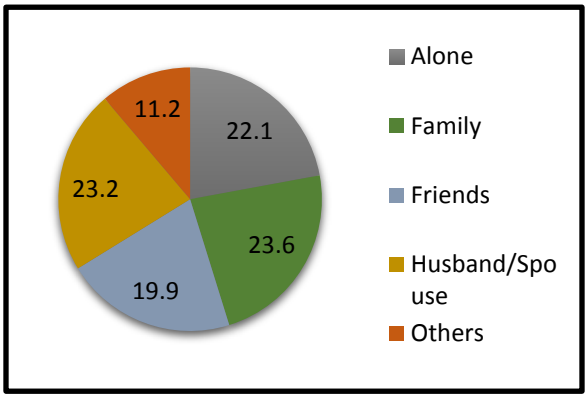

Figure 33- Percentage of household distribution

Table 18 presents the frequency of households with whom respondents live with. Majority 23.6% of the respondents live with families followed by, 23.2% of the respondents that live with husband/spouse. Nonetheless, 22.1% of the respondents live alone, while 19.9% of the respondents are living with friends. Only 11.2% of the respondents responded "others" respectively (this can be shared accommodation or work facilities/dorms).

[1] UAE Currency Exchange to Euro: 4.2 AED – 1 EURO

According to Hofstede (2005), the UAE is a Muslim country with a big cultural tendency for big families and families living together, so is surprising seeing 89 Emiratis (22.1%) living alone or being allowed to share accommodation with friends (19.9%). The rest (46.8 %) shares accommodation with families, husbands or spouses or other relatives while attending university.

4.3.7 Property type

According to the website Propertyfinder.com (2017, April 16th) the UAE presents different types of residency or property types such as: apartments, townhouses, villa, compounds or others (such as bungalows, or farms).

	Frequency (n)	Percentage (%)
Apartment	104	25.9
Townhouse	91	22.6
Villa	90	22.4
Compound	88	21.9
Others	29	7.2
Total	**402**	**100.0**

Table 19: Frequency of Residency/ Property type

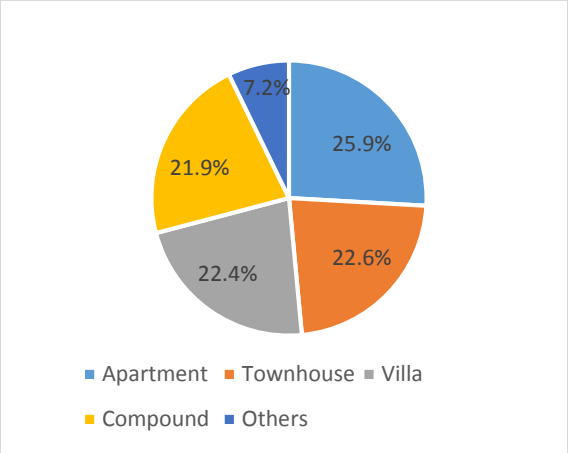

Figure 34 - Percentage of Residency/ Property type

Table 19 presents the frequency of Residency/ Property type of the respondents. The majority of respondents (25.9%) live in apartments, followed by, 22.6% living in townhouses. Furthermore, 22.4% have residency in villas, where 21.9% lives in compounds. Finally, the smallest 7.2% of the respondents mentioned others, respectively. According to Hosfstede (2005) the UAE culture is characterized by big families and relatives living all in one area.

The Muslim culture also indicates that space is really important for families, generally is not normal for Emiratis to live in apartments, so it's surprising that 25.9% do so. This also indicates a shift in views amongst residency choice by younger population, from the traditional villas, farms and compounds that older population is associated with.

4.3.8 Mobile Services

According to Ismail (2012), it is important to verify the levels of usage of mobile services in a country. This serves as a good indicator to verify the acceptance rate of the different types of mobile marketing services provided in the UAE. The question regarding mobile marketing services "Which mobile marketing services do you use?", allows to see which types of services of mobile marketing are more important to users, and which services users have already adopted and see as more benefitial.

	Yes	**No**
	n(%)	
Mobile Entertainment	213 (53%)	189 (47%))
Mobile Banking	195 (48.5%)	207 (51.5%)
Mobile Information	218 (54.2%)	184 (45.8%)
Mobile Payment	180 (44.8%)	222 (55.2%)
Mobile Coupons	170 (42.3%)	232 (57.7%)
Mobile Internet	204 (50.7%)	198 (49.3%)
Mobile Contests	191 (47.5%)	211 (52.5%)
Total	**402**	**100.0**

Table 20: Frequency of Mobile services

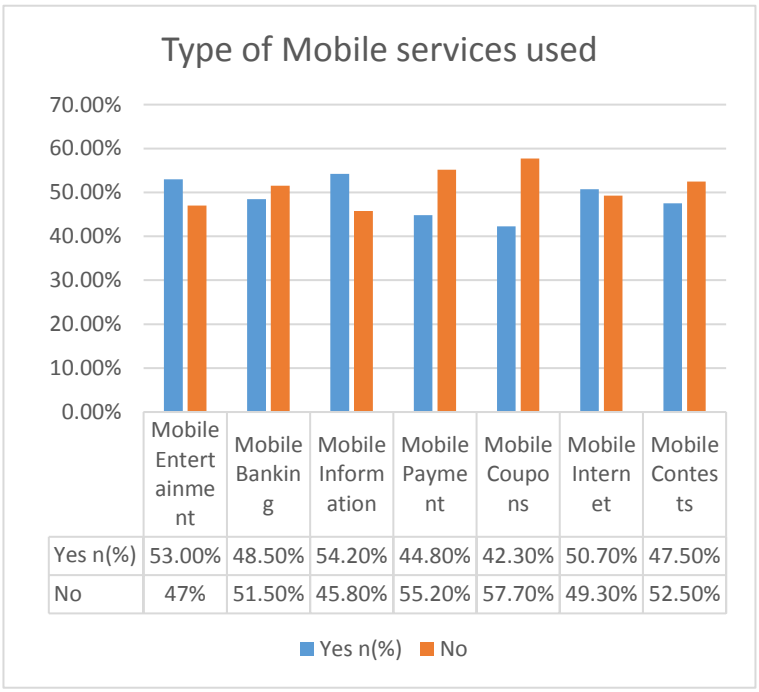

Figure 35 - Percentage of mobile marketing services used

According to Figure 35, around 50% (between 42.3%-54.2%) of respondents are already using all different types of mobile marketing services in their mobiles. This shows a good indicator of acceptance of mobile marketing services. It can be also assumed that mobile marketing services is vastly use in the United Arab Emirates and that users regard it as beneficial.

According to the respondents, the largest percentages were seen in the use of mobile entertainment with 53% (213) and mobile information with 54.2% (218). These results showcase that entertainment and information are also the most important services for higher education consumers. Mobile coupons (42.3%) and Mobile payments (44.8%) are the two types of services that consumers used the least. Surpring is the fact that 48.5% of the respondents stated they are using mobile banking services, since theres a stigma usually related to banking and security on the internet (as mentioned in Chapter 2). The idea of making payments online or by phone can be assumed as one of the least favourites. Nevertheless, this question serves as a good source of information for companies. Knowing, which mobile marketing services are already used, allows them to create strategies, generate content and diffuse better information in a more efficient way.

After finishing analysing Section I (socio-economical and demographic questions) of the questionnaire, Section II, III and IV include the statements that compose the study variables. In accordance to the methodology chapter, the variables in question need first to meet pre-condtitions and requirements of different tests in order to proceed with further analysis. The statements will be expose to Cronbach alpha, (to measure the interconsistency of the statements), followed by Exporatory factor analysis (to validate the questionnaire statements and extract factors). Finally, Structure equation modelling will be used for model development and model fit. After all preconditions established will be then possible to conduct associations and predictions among variables (Pearson and Regression Analysis).

4.4 Reliability Analysis

Reliability refers to the extent to which a scale produces consistent results, if the measurements are repeated a number of times. Reliability analysis is determined by obtaining the quantity of systematic variation on a scale, which can be done by determining the association between the scores obtained from different administrations of the scale (Ticehurst & Veal, 2000). Thus, if the association in reliability analysis is high, the scale yields consistent results and is therefore reliable.

According to Sekaran (2003), Cronbach alpha is a measure used to verify the internal consistency of the variables, meaning how closely several items relate as a group. Cronbach alpha is not a statistical test but rather a coefficient of reliability. The reliability statistical test the internal consistency of subscales. Normally, constructs above 0.7 demonstrate high internal consistency and acceptable values. Low internal consistency (lower than 0.7), mean that there is a chance that the subscale measures more than one construct and has poor internal consistency among statements (Sekaran, 2000). The main issue regarding Cronbach alpha is that it doesn't measure the unidimensionality of the scale. So, in addition to measuring internal consistency, evidence that the scale is unidimensional is also required.

The questionnaire is composed by twenty statements that ask respondents to state their level of agreement on a likert scale of 5 points. According to what was refered in the methodology chapter, each construct was adapted and extracted assisted by previous literature by Sultan *et al.* (2009) Sultan *et. al.* (2012) and Bauer *et. al.* (2005). It is assumed that Cronbach alpha values are a pre-condition of the study. Only constructs that have a cronbach alpha above 0.7 can be used for further analysis (Nunnaly, 1979). All the factors loaded under Reliability Analysis are presented in the following tables.

	Mean	SD	Cronbach's Alpha	Scale	
				Mean	Variance
I would provide a web site with personal information (such as my e-mail address) to receive a small gift	4.59	0.694	0.942	13.79	3.876
I would provide a web site with personal information (such as my e-mail address) to enter a contest	4.59	0.695			
I would provide a web site with personal information (such as my e-mail address) to receive discounts on future purchases	4.61	0.691			

Table 21: Reliability analysis for Risk acceptance

The table 21 presents the reliability analysis reports along with descriptive statistical measures for Risk Acceptance. Cronbach's alpha value is 0.942, which indicates that there is a strong internal consistency among each and every statement. Risk Acceptance scale mean is 13.79 and variance is 3.876. The three Risk Acceptance statements were grouped using their mean for further analysis as one component.

	Mean	SD	Cronbach's Alpha	Scale	
				Mean	Variance
I would register for a contest or promotion using my cellphone	4.42	0.884	0.928	13.19	5.688
I would provide my e-mail address to a web site using my cellphone	4.40	0.822			
I would register with a web site using my cellphone	4.37	0.844			

Table 22: Reliability analysis for Providing information

Table 22 presents the reliability analysis reports along with descriptive statistical measures for Providing information. Cronbach's alpha value is 0.928, which indicates a strong internal consistency among each and every statement. Personal Attachment scale mean is 13.19 and variance is 5.688. The three statements of personal attachment were grouped for further analysis as one variable.

	Mean	SD	Cronbach's Alpha	Scale	
				Mean	Variance
The way my cellphone looks and is designed is important to me.	4.47	0.839	0.912	13.15	5.143
I like to customize my cellphone with interesting screen graphics or wallpaper/images, animations.	4.37	0.819			
I like to customize my cellphone with music, ringtones, images, etc.	4.32	0.802			

Table 23: Reliability analysis for Personal Attachment

Table 23 presents the reliability analysis reports along with descriptive statistical measures for Personal Attachment. Cronbach's alpha value is 0.912, which also indicates a strong internal consistency among each and every statement. Providing Information scale mean is 13.15 and variance is 5.143. The tree statements that measure providing information were grouped using their mean to create one variable in order to proceed with further analysis.

	Mean	SD	Cronbach's Alpha	Scale	
				Mean	Variance
I would pay for content such as games or music for my cellphone	4.57	0.652	0.924	13.55	3.535
I would access fun and entertaining content such as music or games using my cellphone	4.52	0.710			
Download content (images, music, information) using my cellphone	4.46	0.655			

Table 24: Reliability analysis for Acessing Content

Table 24 presents the reliability analysis reports along with descriptive statistical measures for Accessing Content. Cronbach's alpha technique is used in the study for evaluating the internal consistency of data within each factor. Cronbach's alpha value is 0.924, which indicates a strong internal consistency among each and every statement. The accessing content scale mean is 13.55 and variance is 3.535. The three statements were grouped to create one variable and carried for further analysis.

	Mean	SD	Cronbach's Alpha	Scale	
				Mean	Variance
I often send my friends new screen graphics (e.g., images, Gifs, website links, etc) or ringtones (e.g. music files) on their cellphones.	4.34	0.659	0.927	8.72	1.613
Friends often send me cool downloads such as music or screen graphics (e.g., images, gifs, website links, etc) on my cellphone	4.38	0.656			

Table 25: Reliability analysis for Sharing Content

Table 25 presents the reliability analysis report along with descriptive statistical measures for Sharing Content.Cronbach's alpha value for the two statements is 0.927, which indicates that there is a strong internal consistency among each and every statement. Sharing Content scale mean is 8.72 and variance is 1.613. The two statements were grouped as one variable using their mean, in order to use it for further analysis.

	Mean	SD	Cronbach's Alpha	Scale	
				Mean	Variance
When compared to the fee (e.g., application fee, registration fee, etc), I need to pay, the use of mobile marketing offers value for money.	4.49	0.644	0.925	13.36	3.313
When compared to the effort (e.g., learn how to use), I need to put in, the use of mobile marketing is beneficial to me.	4.41	0.637			
Compared to the time (e.g., searching time, time spent), I need to spend, the use of mobile marketing is worthwhile to me.	4.46	0.670			

Table 26: Reliability analysis for Perceived Value

Table 26 presents the reliability analysis report along with descriptive statistical measures for Perceived value. Cronbach's alpha value for perceived value is 0.925, which indicates a strong internal consistency among each and every statement. Perceived value scale mean is 13.36 and variance is 3.313. The three statements were grouped by their mean in order to create one variable, which allow its use for further analysis.

	Mean	SD	Cronbach's Alpha	Scale	
				Mean	Variance
I would be willing to receive information on where to buy certain products or services on my cellphone	4.55	0.687	0.947	13.61	3.809
I would be willing to receive offers on my cellphone from companies selling products related to an event I am attending (for instance, a sporting event)	4.51	0.678			
Overall, I would be willing to receive solicitations from companies to whom I gave my permission.	4.55	0.687			

Table 27: Reliability analysis for Mobile Marketing Acceptance

Table 27 presents the reliability analysis report along with descriptive statistical measures for Mobile Marketing Acceptance. Cronbach's alpha value for mobile marketing acceptance is 0.947, which indicates a very strong internal consistency among each and every statement. Mobile Marketing Acceptance scale mean is 13.61 and variance is 3.809. The three statements that measure mobile marketing acceptance were grouped using their mean in order to create one variable for further analtysis.

Factors	No.of items	Mean	SD	Cronbach's Alpha
Risk Acceptance	3	4.60	0.66	0.942
Personal Attachment	3	4.38	0.76	0.912
Providing Information	3	4.40	0.80	0.928
Accessing Content	3	4.52	0.63	0.924
Sharing Content	2	4.36	0.64	0.927
Perceived value	3	4.45	0.61	0.925
Mobile Marketing Acceptance	3	4.54	0.65	0.947

Table 28: Cronbach's alpha for all variables

The table 28 provides the reliability analysis reports along with descriptive statistical measures for each factor. Cronbach's alpha values for all variables (grouped) range from 0.912 to 0.947, which indicates that internal consistency exists among each and every scale and are higher than the 0.7 rule of thumb proposed by Nunnaly (1979). According to the ranges created by Ticehurst and Veal, (2000) all scales presented above have a strong internal consistency.

This not only proves that the data shows internal consistency among each scale but also allows to prove the reliability of each construct, that were previously used in the studies of Sultan *et al.* (2009), Sultan *et al.(*2012) and Al-meshal & Almotairi (2013). After conducting Cronbach alpha reliability analysis and the pre-assumptions were verified, the next step is to conduct Factor analysis followed by Confimatory Factor Analysis and Amos (Structure Equation Modelling).

4.5 Factor analysis

Factor analysis is used to extract factors from data sets. Generally, this analysis is used to develop questionnaires, while supposing that the data contains a specific number of factors (Holmes-Smith, Cunningham & Coote, 2006). In this situation, it can be also used to reduce the number of variables from a data set. This analysis groups variables with similar features together. The reduced factors can be used for further analysis (Hair *et al.* 2006). According to Hair *et al.* (2006), there are a number of assumptions that need to be met in order to proceed with factors extraction.

1-Values that are extracted from this test and their usage

Kaiser-Meyer-Olkin measure must be greater than 0.5

Bartlett's test of sphericity should have a p-value less than 0.05 (to be significant).

From the total variance explained table, we can estimate the amount of variance explained by each factor.

2-Communalities

This is the amount of each item variance that can be clarified by each factor.

3-Extraction

The values in this column indicate the proportion of each items variance that can be clarified by the reserved factors. Variables with highest values are fit, while variables with low values are not well signified.

4-Factor loading:

Factor loading are basically the correlation coefficient of variable and factor. Factor loading shows the variance explained by the variable on that particular factor. In the SEM approach, as a rule of thumb, 0.5 or higher factor loading represents that the factor extracts sufficient variance from that variable. Normally all values that have a variance <0.5 are eliminated.

5-Eigenvalues:

Eigenvalues are also called characteristic roots. Eigenvalues shows variance explained by that particular factor out of the total variance. From the commonality column, we can know how much variance is explained by the first factor out of the total variance. For example, if our first factor explains 68% variance out of the total, this means that 32% variance will be explained by the other factors.

6-Factor score:

The factor score is also called the component score, which can be used as an index of all variables and can be used for further analysis. We can standardize this score by multiplying a common term. With this factor score, whatever analysis we will do, we will assume that all variables will behave as factor scores.

In this study, the Kaiser – Mayer – Olkin (KMO) and Bartlett's test of sphericity was assumed to confirm that the sample considered for the study was adequate and appropriate to conduct factor analysis. The KMO measurement statistics range between 0 and 1. A value of 0 indicates that the diffusion of the pattern of correlation are likely to be inappropriate for conducting factor analysis.

Whereas, higher values close to 1 indicate that the correlation patterns obtained are relatively compact and the obtained factor scores are reliable and distinct (Kaiser 1970). Further, it is recommended that KMO values greater than 0.5 are acceptable, values within 0.5 and 0.7 are average, values ranges 0.7 and 0.8 are fine, more than 0.8 are great and superb (Hutcheson & Sofroniou, 1999; Kaiser, 1974).

Bartlett's test of sphericity tells whether the original correlation matrix recognized is significantly different from the identical matrix, then factor analysis can be agreed for further analysis. The results of KMO and Bartlett's test of sphericity was given in table 29 and both values are deemed fit as per the suitable (great)criteria's discussed above. The KMO is 0.896 (valid), with 190 degrees of freedom and sig=0,000 (significant).

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.896
Bartlett's Test of Sphericity	Approx. Chi-Square	7930.015
	df	190
	Sig.	0.000

Table 29: KMO and Bartlett's Test

The table 30 reveals the communalities factor analysis. This is the amount of each items variance that can be clarified by the factors. It is also noted that the extraction per factor is considered to be strong. The sum of squared factor loadings for the variables is higher than 0.5. Variables with highest values are fit signified in the common factor space, while variables with low values are not well signified. The findings shows that the extracted values are high and well represented in the common factor space.

	Extraction
I would provide a web site with personal information (such as my e-mail address) to receive a small gift	.901
I would provide a web site with personal information (such as my e-mail address) to enter in a contest	.884
I would provide a web site with personal information (such as my e-mail address) to receive discounts on future purchases	.903
I like to customize my cellphone with interesting screen graphics or wallpaper/images, animations.	.914
The way my cellphone looks and is designed is important to me.	.801
I like to customize my cellphone with music, ringtones, images, etc.	.889
I would provide my e-mail address to a web site using my cellphone	.919
I would register with a web site using my cellphone	.831
I would register for a contest or promotion using my cellphone	.882
Download content (images, music, information) using my cellphone	.813
I would access fun and entertaining content such as music or games using my cellphone	.883
I would pay for content such as games or music for my cellphone	.935
Friends often send me cool downloads such as music or screen graphics (e.g., images, gifs, website links, etc) on my cellphone	.938
I often send my friends new screen graphics (e.g., images, Gifs, website links, etc) or ringtones (e.g music files) on their cellphones.	.928
When compared to the fee (e.g., application fee, registration fee, etc), I need to pay, the use of mobile marketing offers value for money.	.910
When compared to the effort (e.g., learn how to use), I need to put in, the use of mobile marketing is beneficial to me.	.860
Compared to the time (e.g., searching time, time spent), I need to spend, the use of mobile marketing is worthwhile to me.	.852
I would be willing to receive information on where to buy certain products or services on my cellphone	.904
I would be willing to receive offers on my cellphone from companies selling products related to an event I am attending (for instance, a sporting event)	.894
Overall, I would be willing to receive solicitations from companies to whom I gave my permission	.913

Table 30: Communalities

The table 31 shows the varimax rotation, for every single statement, the aim here is to verify if they fall under a specific factor. Varimax rotation alows to group loadings with similar variance and distributes them according to differents factors (Holmes *et al.* 2006). If all leadings fall under the same factor it means that unidmensionality is proven and we can extract that variable.

	Factors							Eigen value (% of Variance)
	1	2	3	4	5	6	7	
Providing Information								
I would provide my e-mail address to a web site using my cellphone	.895							**9.885 (49.426)**
I would register for a contest or promotion using my cellphone	.863							
I would register with a web site using my cellphone	.830							
Perceived Value								
When compared to the fee (e.g., application fee, registration fee, etc), I need to pay, the use of mobile marketing offers value for money.		.876						**1.936 (9.681)**
When compared to the effort (e.g., learn how to use), I need to put in, the use of mobile marketing is beneficial to me.		.851						
Compared to the time (e.g., searching time, time spent), I need to spend, the use of mobile marketing is worthwhile to me.		.822						
Personal Attachment								
I like to customize my cellphone with interesting screen graphics or wallpaper/images, animations.			.908					**1.537 (7.685)**
I like to customize my cellphone with music, ringtones, images, etc.			.891					
The way my cellphone looks and is designed is important to me.			.762					
Accessing Content								
I would pay for content such as games or music for my cellphone				.874				**1.260 (6.298)**
I would access fun and entertaining content such as music or games using my cellphone				.832				
Download content (images, music, information) using my cellphone				.779				
Risk Acceptance								
I would provide a web site with personal information (such as my e-mail address) to enter in a contest					.813			**1.105 (5.523)**
I would provide a web site with personal information (such as my e-mail address) to receive a small gift					.812			
I would provide a web site with personal information (such as my e-mail address) to receive discounts on future purchases					.807			
Mobile Marketing Acceptance								
I would be willing to receive offers on my cellphone from companies selling products related to an event I am attending (for instance, a sporting event)						.813		**1.028 (5.142)**
I would be willing to receive information on where to buy certain products or services on my cellphone						.812		
Overall, I would be willing to receive solicitations from companies to whom I gave my permission						.812		
Sharing Content								
Friends often send me cool downloads such as music or screen graphics (e.g., images, gifs, website links, etc) on my cellphone							.884	**1.002 (5.011)**
I often send my friends new screen graphics (e.g., images, Gifs, website links, etc) or ringtones (e.g music files) on their cellphones.							.844	

Table 31: Exploratory Factor analysis

Varimax rotation proved that the statements fall under the same corresponding variable. The table 31 higlights, that all the statements scores are higher than the minimum extraction score per statement of >0.5. This outcome validates the unidimensionality of the constructs that were previously tested in the studies done by Sultan *et al.* (2009); Sultan *et al*. (2012) and Almeshal & Almotairi (2013).

Furthermore, varimax rotation using all statements extracted 7 factors. In order to provide a clear representation of each extraction per variable the table was cleaned, meaning all statements with loadings lower than 0.5 were deleted. It is possible to see that all statements that explain a variable fall in different factors and the variance of each statements is high.

The variables extracted are then: Perceived value, Providing information, Personal Attachment, Accessing Content, Risk acceptance, Sharing content and Mobile Marketing acceptance.

In sum, the twenty items (measure by a likert scale of 5 points) were taken into exploratory factor analysis. The total twenty questions were reduced to 7 factors. The seven factors are Risk Acceptance, Personal attachment, Providing information, Accessing content, Perceived Value, Sharing content and Mobile Marketing acceptance.

- ➔ Three items were loaded under factor one with loadings ranging from 0.830 to 0.895. Hence, the factors under "Providing information", are consider to be unidimensional. The eigen value for providing information is 9.885 and total variance is 49.426.
- ➔ Three items were loaded under factor two ranging from 0.822 to 0.876. Hence, the factor named, "Perceived value" was proven to be unidimensional. The eigen value for perceived value is 1.936 and total variance 9.681.
- ➔ Three items were loaded under factor three ranging from 0.762 to 0.908. Hence, the factor named, "Personal Attachment" was proven to be unidimensional. The eigen value for Personal Attachment is 1.537 and total variance is 7.685.

- ➔ Three items were loaded under factor four, ranging from 0.779 to 0.874. Hence, the factor "Accessing Content" is proven to be unidimensional. The eigen value for "Accessing Content is 1.260 and a total variance of 6.298.
- ➔ Three items were loaded under Factor Five with carrying ranges from 0.807 to 0.813. Hence, the factor named "Risk Acceptance" was proven to be unidimensional. The eigen value for Risk Acceptance is 1.105 and total variance is 5.523.
- ➔ Three items were loaded under factor six, carrying ranges from 0,812 to 0,813 Hence, the factor named "Mobile Marketing Acceptance" was proven to be unidimensional. The eigen value for Mobile Marketing Acceptance is 1,028 and total variance is 5,142.
- ➔ Two items were loaded under factor factor seven carrying ranges from 0,844 and 0.884. Hence, the factor named " Sharing Content" was proven to be unidimensional. The Eigen value for sharing content is 1.002 and a total variance of 5.011.

All the constructs were validated and considered to be unidimensional. Despite, conducting Confirmatory factor analysis later, it is assumed that since the variables were previously used in mobile marketing acceptance (what we intend to measure) they should be acceptable for the study. Nevertheless, we have used exploratory factor analysis for reassurance of unidimemsionality for all the scales of this study.

Despite the fact, that all items shown a high level of extraction, higher than the 0.5 cut-off propused by Holmes *et al.* (2006), it is important to highlight that discriminant validity for the variables was attained.The reason for the data to present high extraction levels per statement might be explained by the reduction of factors produced by the factor analysis done by Sultan *et al.* (2009) and Sultan *et al.* (2012).

The authors, in order to validate and improve dimensionality of their questionnaires statements deleted those that didn't meet the requirements. This study has only used the statements that were approved and the statements that proven to be unidimensional. Lastly, the Scree Plot in figure 36 showcases the above data. The Scree Plot is a tool used to graphically verified the number of components extracted from the data (Hair *et al*. 2006). Since, Sultan *et al.* (2009), Sultan *et al.* (2012) used those variables in their studies, when it came to meet the requeriments for the eingenvalue, the system alows us to compute the number of factors that we are expected to get. So, seven components were input into the system for extraction.

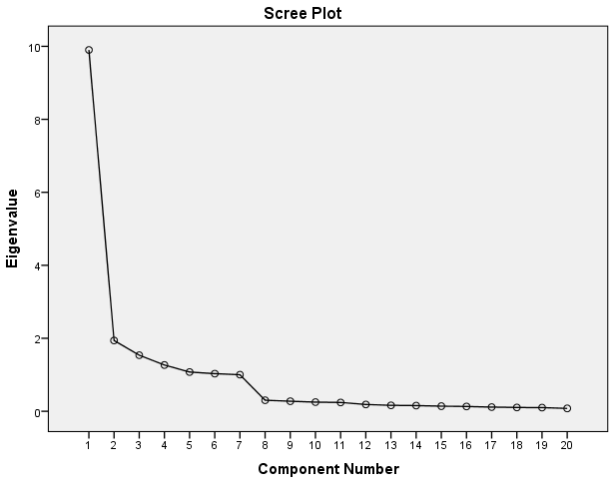

Figure 36: Scree plot

According to Holmes-Smith, Cunningham & Coote (2006) the cutt off point of eigenvalue is one, meaning all components that fall under the minimum value do not meet the requeriments to be used. As per the figure of the Scree plot, we can see 7 components extracted with values higher than 1. So the seven components meet all criterias, can be extracted and are deemed acceptable.

The questionnaire statements are now grouped as: Risk acceptance, Providing Information, Accessing Content, Sharing Content, Personal Attachment, Perceived Value and Mobile Marketing Acceptance.

4.6 Descriptive variables

Descriptive statistics of dependent and independent variable are presented in the below table. As per Sultan *et al.* (2009) and Al-Meshal & Almotairi (2013), the dimensions used in the study (six independent, and 1 dependent variables as presented in Chapter 3 "Constructs and scales"), presented very high means. All variables average range between 4 and 5 (as per Likert scale) stating a very good level of agreement with the all statements. The factor risk acceptance has the highest mean with 4.60 and standard deviations 0.66, along with mobile marketing acceptance with a mean of 4.54 and standard deviation of 0.65. The lowest average variable is Sharing content with a mean of 4.36 and standard deviation 0.64. All the other variables range between 4.36 and 4.52 mean.

	N	Mean	SD	Max	Min
Risk Acceptance	402	4.60	0.66	5.00	1.00
Personal attachment	402	4.38	0.76	5.00	1.00
Providing information	402	4.40	0.80	5.00	1.00
Accessing content	402	4.52	0.63	5.00	1.33
Sharing content	402	4.36	0.64	5.00	1.00
Perceived value	402	4.45	0.61	5.00	1.00
Mobile marketing acceptance	402	4.54	0.65	5.00	1.00

Table 32: Descriptive statistics of all variables

The table 32 presents the descriptive statistics for study variables. The descriptive statistics such as Mean, standard deviation and max and min. The likert scale used was coded with a minimum value of 1 – strongly disagree to a maximum value of 5 –strongly agree. Once the, the descrpitive analysis was conducted and the EFA assumptions were met, is now possible to take the variables to SEM to develop and test the model.

4.7 Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) is an extension of general linear models. It is used to test a set of regression equations simultaneously. As per Hair et al. (2006) the advantages of SEM Analysis are as follows:

- SEM provides overall tests of model fit and individual parameter estimate tests simultaneously.
- Regression coefficients, means and variances may be associated simultaneously.
- It is possible to display the variables on a graphical interface software.
- SEM represents the relationship between dependent (unobserved) variable and independent (observed) variables using path diagrams. In this analysis, ovals or circles represent dependent variable and rectangles or squares represent independent variable. According to Holmes *et. al.* (2006), if the hypothesized model has a good fit, the statistical test values should be in the following manner.

  - Chi-square value should be less than 5
  - GFI, AGFI and CFI values should be greater than 0.90
  - RMR & RMSEA values should be less than 0.08

The Figure 37 presents all study variables enrolled in the CFA model.

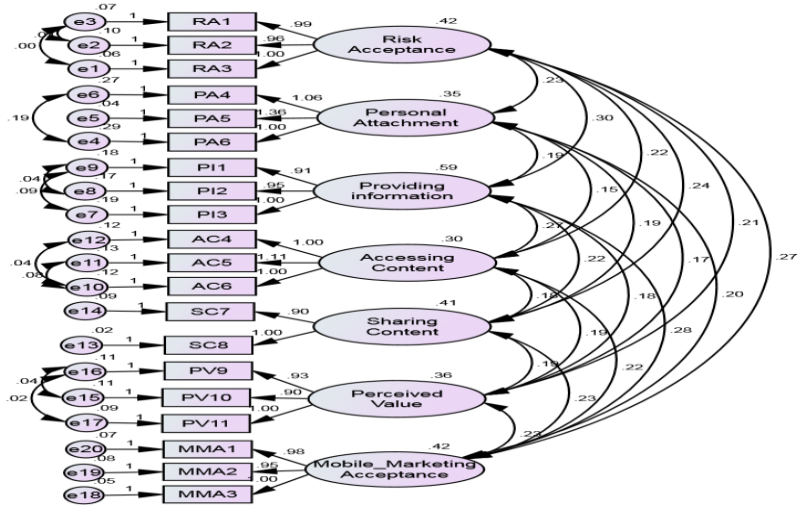

Figure 37: CFA Model

To examine the theoretical interdependence between seven factors (Risk Acceptance**,** Personal attachment**,** Providing information**,** Accessing content**,** Perceived Value, Sharing content and Mobile Marketing Acceptance) structural equation modelling was used (see Table 33). This analysis allows to test all the relevant paths and measurements errors and feedbacks which are included directly in the model. The p-value for each statement is <0.001 and the standardized coefficients are high, this also proves discriminant validity of the scales.

			Unstandardized coefficient	**S.E**	**Standardized coefficient**	**p-value**
RA3	<---	Risk_Acceptance	1.000		0.936	
RA2	<---	Risk_Acceptance	0.961	0.039	0.894	**<0.001*** **
RA1	<---	Risk_Acceptance	0.990	0.037	0.921	**<0.001*** **
PA6	<---	Personal_Attachment	1.000		0.744	
PA5	<---	Personal_Attachment	1.362	0.093	0.968	**<0.001*** **
PA4	<---	Personal_Attachment	1.062	0.038	0.772	**<0.001*** **
PI3	<---	Providing_information	1.000		0.873	
PI2	<---	Providing_information	0.953	0.056	0.871	**<0.001*** **
PI1	<---	Providing_information	0.911	0.039	0.856	**<0.001*** **
AC6	<---	Accessing_Content	1.000		0.844	
AC5	<---	Accessing_Content	1.106	0.041	0.856	**<0.001*** **
AC4	<---	Accessing_Content	1.001	0.051	0.841	**<0.001*** **
SC8	<---	Sharing_Content	1.000		0.977	
SC7	<---	Sharing_Content	0.901	0.040	0.884	**<0.001*** **
PV10	<---	Perceived_Value	0.903	0.053	0.847	**<0.001*** **
PV9	<---	Perceived_Value	0.929	0.046	0.863	**<0.001*** **
PV11	<---	Perceived_Value	1.000		0.893	
MMA3	<---	Mobile Marketing Acceptance	1.000		0.942	
MMA2	<---	Mobile_Marketing Acceptance	0.950	0.030	0.907	**<0.001*** **
MMA1	<---	Mobile_Marketing Acceptance	0.983	0.029	0.926	**<0.001*** **

***p<0.001, **p<0.01, *p<0.05

Table 33: CFA model all variables

The model fit, which was assessed using global fit (six different fit indices) and 'r' to identify the degree to which the hypothesized model is consistent with the data in hand. In other words, the degree to which the implicit matrix of co-variances, (based on the hypothesized model), and the sample covariance matrix based on data it seems to fit (Bollen, 1989).

The structural model presented in table 34, shows the quality of fit was an acceptable representation of the sample data (χ^2 (140)= 213.761, GFI (Goodness of Fit Index)=0.953; CFI (Comparative Fit Index)=0.991, RFI (Relative fit index)= 0.964 and NFI **(**Normed Fit Index) = 0.974 which are greater than the 0.90 criteria as recommended by Hu & Bentler (1999) and Joreskog & Sorbom (1981). Similarly, RMR (Root Mean Square Residuals) =0.012 and RMSEA **(**Root Mean Square Error of Approximation) =0.036 values are lower than 0.08 critical value (Steiger, 1989). The next step is to differentiate between independent and dependent variables and see if the paths between them are significant.

Variable	Value	Suggested value
Chi-square value (X^2)	213.761	
Degrees of freedom (df)	140	
χ^2 /df	1.527	
GFI	0.953	>0.90 (Hair *et al.* 2006)
NFI	0.974	> 0.90 (Daire *et al*. 2008)
RFI	0.964	> 0.90 (Bollen, 1989)
CFI	0.991	>0.90 (Hu & Bentler, 1999)
RMR	0.012	< 0.08 (Hair *et al*. 2006)
RMSEA	0.036	< 0.08 (Hair *et al.* 2006)

Table 34: Model fit all variables

When the separation of the independent variables and dependent variable are taken into account (see Figure 38.) the Confirmatory factor analysis allows to create paths (in between variables) and run simoutaneous regression analysis. If p-value turns out to be significant and the model fit indices are above the minimum criteria, then it's stated that the conceptual model is valid and has model fit (Hair *et al.* 2006).

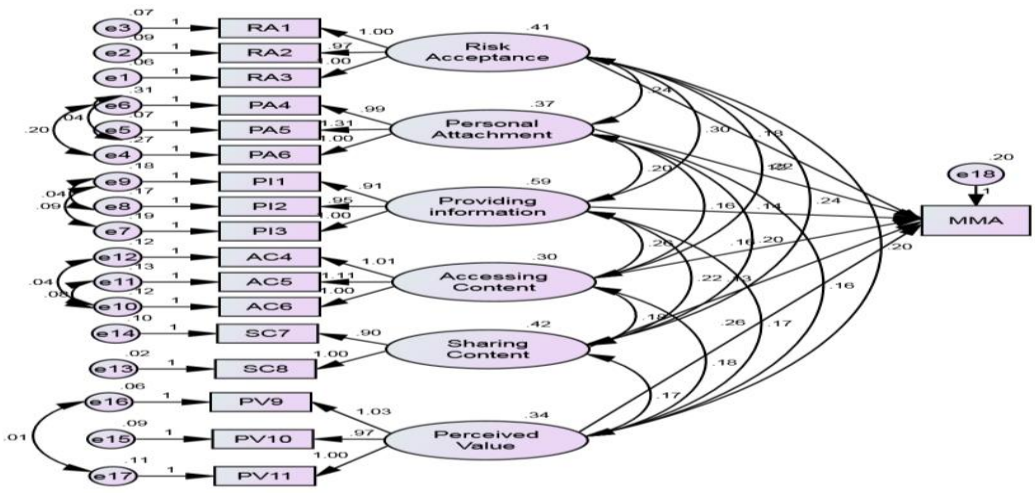

Figure 38: Full model for independent and dependent variables

			Unstandardized coefficient	S.E	Standardized coefficient	p-value
RA3	<---	Risk_Acceptance	1.000		0.930	
RA2	<---	Risk_Acceptance	0.975	0.032	0.901	**<0.001*** **
RA1	<---	Risk_Acceptance	1.001	0.031	0.926	**<0.001*** **
PA6	<---	Personal Attachment	1.000		0.759	
PA5	<---	Personal Attachment	1.306	0.093	0.947	**<0.001*** **
PA4	<---	Personal Attachment	0.987	0.054	0.733	**<0.001*** **
PI3	<---	Providing information	1.000		0.873	
PI2	<---	Providing information	0.952	0.056	0.871	**<0.001*** **
PI1	<---	Providing information	0.911	0.039	0.856	**<0.001*** **
AC6	<---	Accessing Content	1.000		0.840	
AC5	<---	Accessing Content	1.109	0.041	0.856	**<0.001*** **
AC4	<---	Accessing Content	1.006	0.052	0.842	**<0.001*** **
SC8	<---	Sharing Content	1.000		0.979	
SC7	<---	Sharing Content	0.897	0.040	0.882	**<0.001*** **
PV10	<---	Perceived Value	0.975	0.053	0.887	**<0.001*** **
PV9	<---	Perceived Value	1.033	0.038	0.930	**<0.001*** **
PV11	<---	Perceived Value	1.000		0.866	
MMA	<---	Risk_Acceptance	0.175	0.061	0.173	**0.004****
MMA	<---	Personal Attachment	0.123	0.053	0.115	**0.021***
MMA	<---	Providing information	0.137	0.047	0.162	**0.004****
MMA	<---	Accessing Content	0.161	0.076	0.135	**0.033***
MMA	<---	Sharing Content	0.128	0.048	0.127	**0.007****
MMA	<---	Perceived Value	0.259	0.056	0.231	**<0.001****

***p<0.001, **p<0.01, *p<0.05

Table 35: Full model and paths

To examine the theoretical interdependence between six factors (Risk Acceptance**,** Personal attachment**,** providing information**,** Accessing content**,** Perceived Value and Sharing content) with Mobile marketing acceptance as dependent variable, structural equation modelling was used. This analysis allows to test all the relevant paths and measurements errors, while feedbacks are included directly in the model. The fit indices reveals a model with good fit as the factors are found to be significant (Table 35). The model fit, which was assessed using global fit (six different fit indices) and 'r' to identify the degree to which the hypothesized model is consistent with the data in hand. The paths leading to mobile marketing acceptance are all deemed significant, risk acceptance is significantly related to Mobile marketing acceptance (0.004), personal attachment (0.021), providing information (0.004), accessing content (0.033), sharing content (0.007) and perceived value (0.001).

Variable	Value	Suggested value
Chi-square value	183.977	
Degrees of freedom (df)	108	
χ^2 /df	1.703	
GFI	0.955	>0.90 (Hair *et al.* 2006)
NFI	0.973	> 0.90 (Daire *et al.* 2008)
RFI	0.962	> 0.90 (Bollen, 1989)
CFI	0.989	>0.90 (Hu & Bentler, 1999)
RMR	0.013	< 0.08 (Hair *et al.* 2006)
RMSEA	0.042	< 0.08 (Hair *et al.* 2006)

Table 36: Final Model fit summary

The structural model and quality of fit (Table 36.) presents an acceptable representation of the sample data (χ^2 (108)= 183.977, GFI (Goodness of Fit Index)=0.955; CFI (Comparative Fit Index)=0.989, RFI (Relative fit index)= 0.962 and NFI **(**Normed Fit Index) = 0.973 which are greater than the 0.90 criteria as recommended by Hu & Bentler (1999) and Joreskog & Sorbom (1981). Similarly, RMR (Root Mean Square Residuals) =0.013 and RMSEA **(**Root Mean Square Error of Approximation) =0.042 values are lower than 0.08 critical value (Steiger, 1989). This way the model proposed is considered to be valid and significant.

4.8 Pearson's Coefficient of correlation

The strength and direction of association between two variables is measured by Pearson correlation coefficient. The two variables must be measured on a continuous (interval) scale (Srmuniv, 2018). The correlation coefficient (r) ranges from -1 to 1. Based on the sign of the correlation coefficient we may conclude the following manner (Gogtay & Thatte, 2017):

- When r is –1, we say there is a perfect negative correlation.
- When r is a value between –1 and 0, we say that there is a negative correlation
- When r is 0, we say there is no correlation
- When r is a value between 0 and 1, we say there is a positive correlation
- When r is 1, we say there is a perfect positive correlation

Pearson correlation will also allow to test the hypothesis of the study. According to H1, and as per the studies of Al-Meshal & Almoitairi (2013) and Sultan *et al.* (2009) mobile related activities and antecedent factors of mobile marketing lead to a significant relationship to behavior intent of consumers (in this particular case, Mobile marketing acceptance). So the hypothesis is presented:

H_{null}: There is no significant relationship between Risk Acceptance, Personal attachment, providing information, accessing content, sharing content, Perceived value and Mobile marketing acceptance.

H_1: There is a significant relationship between Risk Acceptance, Personal attachment, providing information, accessing content, sharing content, Perceived value and Mobile marketing acceptance.

The table 37 presents the Pearson correlation analysis. The correlation analysis shows the linearity and strength of association between the variables. The values are represented by (r) and (p-value), while r is the degree of correlation, p-value represents the significance level (Al-Meshal & Almotairi, 2013).

	RA	PA	PI	AC	SC	PV	MMA
Risk Acceptance	1						
Personal attachment	.499**	1					
Providing information	.532**	.328**	1				
Accessing content	.550**	.397**	.525**	1			
Sharing content	.531**	.428**	.407**	.425**	1		
Perceived value	.502**	.441**	.334**	.501**	.443**	1	
Mobile marketing acceptance	.601**	.488**	.506**	.545**	.517**	.554**	1

**p<0.01, *p<0.05

Table 37: Relationship between Risk Acceptance, Personal attachment, providing information, Accessing content, sharing content, Perceived value and Mobile marketing acceptance

From the above results, Risk Acceptance showed a significant positive linear relationship with Personal attachment (r=0.499, p<0.01), providing information (r=0.532, p<0.01), Accessing content (r=0.550, p<0.01), Sharing content (r=0.531, p<0.01), Perceived value (r=0.502, p<0.01) and Mobile marketing acceptance (r=0.601, p<0.01).

This proves that the more risk higher education consumers are willing to take (while passing information), the greater the acceptance of mobile marketing programs.

Personal attachment does show a significant positive linear relationship with risk acceptance (r=0.499, p<0.01), providing information (r=0.328, p<0.01), Accessing content (r=0.397, p<0.01), Sharing content (r=0.428, p<0.01), Perceived value (r=0.441, p<0.01) and Mobile marketing acceptance (r=0.488, p<0.01).

It can be said then, that the more higher education students have the ability to personalize their phone according to their taste, the greater is the acceptance of mobile marketing.

Providing information also shows a significant positive linear relationship with Risk acceptance ($r=0.532$, $p<0.01$), Personal attachment ($r=0.328$, $p<0.01$), Accessing content ($r=0.525$, $p<0.01$), Sharing content ($r=0.407$, $p<0.01$), Perceived value ($r=0.334$, $p<0.01$) and Mobile marketing acceptance ($r=0.506$, $p< 0.01$). This highlights that the more higher education students are willing to provide emails and information to companies, the greater their acceptance of mobile marketing.

Accessing content shows a significant positive linear relationship with Risk acceptance ($r=0.550$, $p<0.01$), Personal Attachment ($r=0.397$, $p<0.01$), Providing information ($r=0.525$, $p<0.01$), Sharing content ($r=0.425$, $p<0.01$), Perceived value ($r=0.501$, $p<0.01$) and Mobile marketing acceptance ($r=0.545$, $p< 0.01$). This finding states, that the more willingness to access content by higher education students, the greater is their acceptance of mobile marketing.

Sharing content does show a significant positive linear relationship with Risk Acceptance ($r=0.531$, $p<0.01$), Personal Attachment ($r=0.428$, $p<0.01$), Providing information ($r=0.407$, $p<0.01$), Accessing Content ($r=0.425$, $p<0.01$), Perceived value ($r=0.443$, $p<0.01$) and Mobile marketing acceptance ($r=0.517$, $p<0.01$). Sharing content presents a moderate association with all study variables. It can be said, that the more higher education are willing to share information (to companies or peers), the greater their acceptance of mobile marketing.

Finally, Perceived value also shows a significant positive linear relationship with Risk acceptance ($r=0.502$, $p<0.01$), Personal Attachment ($r=0.441$, $p<0.01$), Providing information ($r=0.334$, $p<0.01$), Accessing Content ($r=0.501$, $p<0.01$), Sharing Content ($r=0.443$, $p<0.01$), and Mobile marketing acceptance ($r=0.554$, $p<0.01$).

This outcome proves that the more value is perceived by higher education students the more there are willing to accept mobile marketing campaigns. All correlation values among all study variables ranged from 0.328 - 0.601. Hence, the hypothesis:

H_1: There is a significant relationship between Risk Acceptance, Personal attachment, providing information, Accessing content, sharing content, Perceived value and Mobile marketing acceptance was supported and Null hypothesis is rejected.

In sum, it can be said that all variables present a positive moderate/good level of association with mobile marketing acceptance and amongst each other. In order to deepen the analysis among the study variables, linear regression will be conducted next. Regression analysis allows assuming a statistical model that predicts the behavior of a dependent variable with one or more indenpendent variables (Pestana & Gageiro, 2003).

4.9 Regression Analysis

Regression is used to find the association between independent and dependent variables. This means that, if there is a significant impact in the independent variable to predict the outcome of the dependent variable. In the linear regression, it is only possible the use of one independent variable and dependent variable. In multiple regression analysis, the system allows to compute more than one independent variable and dependent variable. The dependent (Predictand) variable means the variable we want to predict, and independent variable means the variable we assume to predict the value of the dependent variable (Pestana & Gageiro, 2003).

H_{null}: There is no significant relationship between risk acceptance and Mobile marketing acceptance.

H_2: There is a significant relationship between risk acceptance and Mobile marketing acceptance.

	Unstandardized Coefficients		R Square	t value	p value
	Beta	SE			
(Constant)	1.798	0.184	0.361	9.774	0.000
Risk Acceptance	0.596	0.040		15.047	**0.000****

Dependent Variable: Mobile Marketing Acceptance, **p<0.01
Table 38: Association between Risk acceptance and mobile marketing acceptance

Table 38 presents the association between Risk Acceptance and Mobile Marketing Acceptance. The significance value (p-value<0.01) reveals that Mobile Marketing Acceptance is depended on the Risk Acceptance. In addition, Risk Acceptance might be able to clarify that 36% of the variance in Mobile Marketing Acceptance (R^2 value =0.361). Also, the beta coefficient of Risk Acceptance (0.596) is positive. It reveals that if risk acceptance increases in value, then it will lead to an increase Mobile Marketing Acceptance. Therefore, we conclude that the hypothesis,

H_2: There is a significant relationship between Risk Acceptance and Mobile marketing acceptance is supported and the Null hypothesis is rejected.

H_{null}: There is no significant relationship between Providing Information and Mobile marketing acceptance.

H_3: There is a significant relationship between Providing Information and Mobile marketing acceptance.

	Unstandardized Coefficients		R Square	t value	p value
	Beta	SE			
(Constant)	2.718	0.158	0.256	17.240	0.000
Providing information	0.414	0.035		11.726	**0.000****

Dependent Variable: Mobile Marketing Acceptance, **p<0.01
Table 39: Association between providing inormation and mobile marketing acceptance

The table 39 presents the association between providing information and Mobile Marketing Acceptance. The significance value (p-value<0.01) reveals that Mobile Marketing Acceptance is depended on providing information. In addition, providing information could be able to explain that 25% of the variance in Mobile Marketing Acceptance (R^2 value = 0.256). Also, the beta coefficient of providing information (0. 414) is positive. It reveals that if providing information increases in value, then it will lead to the increase of Mobile Marketing Acceptance. Therefore, we conclude that the hypothesis,

H_3: There is a significant relationship between providing information and Mobile marketing acceptance is supported and Null hypothesis is rejected.

H_{null}: There is no significant relationship between Sharing Content and Mobile marketing acceptance.

H_4: There is a significant relationship between Sharing Content and Mobile marketing acceptance.

Table 40 presents the association between Sharing Content and Mobile Marketing Acceptance. The significance value (p-value<0.01) reveals that Mobile Marketing Acceptance is depended on the Sharing Content. In addition, Sharing Content might be able to explain that 27% of the variance in Mobile Marketing Acceptance (R^2 value = 0.267). Also, the beta coefficient of Sharing Content (0.529) is positive. It reveals that if the value of Sharing Content increases, then Mobile Marketing Acceptance value will also increase. Therefore, we conclude that the hypothesis,

H_4: There is a significant relationship between Sharing Content and Mobile marketing acceptance is supported and Null hypothesis is rejected.

	Unstandardized Coefficients		R Square	t value	p value
	Beta	SE			
(Constant)	2.229	0.193	0.267	11.534	0.000
Sharing Content	0.529	0.044		12.069	**0.000****

Dependent Variable: Mobile marketing acceptance, **p<0.01

Table 40: Association between sharing content and mobile marketing acceptance

H_{null}: There is no significant relationship between Accessing content and Mobile marketing acceptance.

H_5: There is a significant relationship between Accessing content and Mobile marketing acceptance.

Table 41 presents the association between Accessing content and Mobile Marketing Acceptance. The significance value (p-value<0.01) reveals that Mobile Marketing Acceptance is depended on the Accessing content. In addition, Accessing content might be able to explain that 30% of the variance in Mobile Marketing Acceptance (R^2 value = 0.297). Also, the beta coefficient of Accessing content (0.565) is positive. It reveals that if the value of Accessing content increases, then Mobile Marketing Acceptance value will also increase. Therefore, we conclude that the hypothesis,

H_5: There is a significant relationship between Accessing content on Mobile marketing acceptance supported and Null hypothesis is rejected.

	Unstandardized Coefficients		R Square	t value	p value
	Beta	SE			
(Constant)	1.985	0.198	0.297	10.000	0.000
Accessing content	0.565	0.044		12.987	**0.000****

Dependent Variable: Mobile marketing acceptance, **p<0.01

Table 41: Association between Accessing Content with Mobile marketing acceptance

H_{null}: There is no significant relationship between Personal attachment and Mobile marketing acceptance.

H_6: There is a significant relationship between Personal attachment and Mobile marketing acceptance.

The table 42 presents the association between Personal attachment and Mobile Marketing Acceptance. The significance value (p-value<0.01) reveals that Mobile Marketing Acceptance is depended on the Personal attachment. In addition, Personal attachment might be able to explain that 24% of the variance in Mobile Marketing Acceptance (R^2 value = 0.238).

Also, the beta coefficient of Personal attachment (0.420) is positive. It reveals that if the value of Personal attachment is increase, then Mobile Marketing Acceptance value also will increase. Therefore, we conclude that the hypothesis,

H_6: There is a significant relationship between Personal attachment and Mobile marketing acceptance is supported and Null hypothesis is rejected.

	Unstandardized Coefficients		R Square	t value	p value
	Beta	SE			
(Constant)	2.696	0.167	0.238	16.133	0.000
Personal attachment	0.420	0.038		11.180	**0.000****

Dependent Variable: Mobile Marketing Acceptance, **p<0.01

Table 42: Association between personal attachment and mobile marketing acceptance

H_{null}: There is no significant relationship between Perceived value and Mobile marketing acceptance.

H_7: There is a significant relationship between Perceived value and Mobile marketing acceptance.

The table 43 presents the association between Perceived value and Mobile Marketing Acceptance. The significance value (p-value<0.01) reveals that Mobile Marketing Acceptance is depended on the Perceived value. In addition, Perceived value might be able to explain that 31% of the variance in Mobile Marketing Acceptance (R^2 value = 0.307). Also, the beta coefficient of Perceived value (0.594) is positive. It reveals that if the value of Perceived value increases, then Mobile Marketing Acceptance value will also increase. Therefore, we conclude that the hypothesis,

H_7: There is a significant relationship between Perceived value and Mobile marketing acceptance is supported and Null hypothesis is rejected.

	Unstandardized Coefficients		R Square	t value	p value
	Beta	SE			
(Constant)	1.892	0.201	0.307	9.431	0.000
Perceived value	0.594	0.045		13.310	**0.000****

Dependent Variable: Mobile marketing acceptance, **p<0.01
Table 43: Association between perceived value and mobile marketing acceptance

The association between Risk Acceptance, Personal Attachment, Providing Information, Accessing Content, Sharing Content, Perceived Value and Mobile Marketing Acceptance presented in the table 44. The significance value (p-value<0.05) clearly reveals that Risk Acceptance (β=0.193, p=0.001<0.01), Personal Attachment (β=0.112, p=0.002<0.01), Providing Information (β=0.131, p=0.000<0.01), Accessing Content (β=0.139, p=0.006<0.01), Sharing Content (β=0.143, p=0.020<0.05) and Perceived Value (β=0.232, p=0.000<0.01) are positively influences on Mobile Marketing Acceptance.

	Unstandardized Coefficients		R Square	t value	p value
	Beta	SE			
(Constant)	0.298	0.207	0.527	1.440	0.151
Risk Acceptance	0.193	0.049		3.929	**0.000****
Personal attachment	0.112	0.036		3.092	**0.002****
Providing information	0.131	0.036		3.668	**0.004****
Accessing content	0.139	0.048		2.892	**0.002****
Sharing content	0.143	0.044		3.227	**0.001****
Perceived value	0.232	0.047		4.958	**0.000****

Dependent Variable: Mobile Marketing Acceptance, **p<0.01, *p<0.05
Table 44: association between all independent variables and mobile marketing acceptance

In addition, 53 percent of the variation in Mobile Marketing Acceptance is dependent on Perceived Value (R-square=0.527). Hence there can be said that Risk Acceptance, Personal Attachment, Providing Information, Accessing Content, Sharing Content, Perceived Value can predict positively the Mobile Marketing Acceptance of higher education students.

In sum, we can conclude that the total impact of the factors (Sharing content, accessing content, perceived value, providing information, risk acceptance and personal attachment is significant on mobile marketing acceptance. Proving that the affirmations made by Al-Meshal & Motairi (2013), Sultan *et al.* (2009) are consistent with the results above. The model explains 52.7% of variance on mobile marketing acceptance and impacting it positively.

Hypothesis	Type of the test used	Supported/ Reject
There is a significant relationship between Risk Acceptance, Personal attachment, providing information, Accessing content, sharing content, Perceived value and Mobile marketing acceptance	Pearson Correlation	Supported
There is a significant relationship between risk acceptance and mobile marketing acceptance	Pearson Regression	Supported
There is a significant relationship between Providing information and mobile marketing acceptance	Pearson Regression	Supported
There is a significant relationship between sharing content and mobile marketing acceptance	Pearson Regression	Supported
There is a significant relationship between accessing content and mobile marketing acceptance	Pearson Regression	Supported
There is a significant relationship between personal attachment and mobile marketing acceptance	Pearson Regression	Supported
There is a significant relationship between perceived value and mobile marketing acceptance.	Pearson Regression	Supported

Table 45: Hypotesis confirmation

As per the table 45, we can conclude that all hypothesis of the study were supported, meaning that we reject the null hypothesis and take on the alternative hypothesis. The hypothesis were verified using Pearson correlations coefficient and Regression analysis.

4.10 Discussion of the demographic findings

In this research, the majority of respondents (99.1%) stated they have used mobile marketing services. This shows the scope of mobile marketing usage in the UAE, since out of 406 respondents, only 4 have not used mobile marketing services before. Further, the majority of respondents (51.7%) were female, while the remaining respondents were male. This finding depicts that both genders are actively using mobile marketing services in their daily life.This research confirms that many of the respondents' (29.4%) range between the ages of 26 to 30 years, followed by 27.9% of the respondents' age group falling between 31 and 35 years.

A further 26.4% of the respondents' age is less than or equal to 25 years, while 16.4% of the respondents' age group is above 35 years. The average age amongst all participants in this study is approximately 26 years old. This highlights that the segment of higher education students (mostly millennials) are intrinsically motivated in using mobile marketing services and this can be a potential market of focus to companies creating mobile marketing campaigns as it is also refered by Go-Gulf (2013).

Moreover, many of the respondents (37.1%) are currently enrolled in diploma courses, followed by 29.6% undertaking bachelor degrees. To add to that, 25.4% of the respondents are completing their master degrees, while 8% of the respondents are attending a PhD program. Therefore, the acceptance of mobile marketing is considered high amongst all types of higher education students. Most of the surveyed particpants (19.9%) in this study are inhabitants of Abu Dhabi, followed by 18.7% of the respondents who are living in Dubai. A further 15% of respondents are living in Sharjah, with 13% in Um Al Qwuain and 9.5% in RAK. A mere 8% of respondents reported living in Ajman. This highlights that even though Abu Dhabi and Dubai are the biggest regions in the country and have the largest number of users, mobile marketing is used throughout all the other emirates.

The majority of respondents (22.1%) earn within the range of 10001-20000 AED, followed by 19.7% at 5001-10000 AED. A total of 18.9% of respondents earn between 0-5000 AED, while 17.4% are within the range of 20001-25000 AED. This indicates that despite the higher purchasing power and earning income within the UAE region, mobile marketing acceptance is widely used despite varying income levels. Additionally, 54.2% have used mobile phones to procure information, while 53% of respondents mentioned using mobile entertainment. Further, 48.5% utilize mobile banking services, whereas 44.8% engage in mobile payment services and 47.5% participated in mobile contests.

Correspondingly, 42.3% have used mobile coupons, which is considered to be the least favourable amongst all choices of service provided. To clarify, it is evident that the UAE usage level of different forms of mobile marketing services is considered to be a positive indicator. The UAE respondents particularly appreciate mobile entertainment and accessing mobile information. Therefore, companies should consider investing in creating mobile marketing campaigns, that primarly focus around entertainment content. Thus, providing useful information while consumers access mobile internet in their phones.

Despite all other mobile marketing services depicting a percentage of use lower than 50%, they are all between the ranges of 42.5% to 48.5%. This further highlights that companies should continue to invest in the aforementioned services, as they have a good chance to develop them further in the future.

4.11 Discussion of the findings

From the data analysis addressed in the previous chapter, with respect to the variables of the study, it has been established that risk acceptance has a significant effect on mobile marketing acceptance. The significance value revealed by the p-value less than 0.01, indicates that mobile marketing acceptance is dependent on risk acceptance.

Moreover, risk acceptance might be able to clarify 36% of the variance in mobile marketing acceptance, indicated by R2 value (that is equal to 0.361). Also, the beta coefficient of risk acceptance (0.596) is positive. Furthermore, it is possible to conclude that if risk acceptance increases in value, then it will lead to an increase in mobile marketing acceptance. On the basis of the application of TAM, this perspective has relevance to the current research in that marketing-associated mobile activities can be incorporated (in regards to motives like information provision, accessing mobile content, and sharing content within the mobile platform).

Risk acceptance therefore has a positive effect on mobile marketing intent practices (Chee *et al.* 2018), (Kim & Law, 2015). Sultan *et al.* (2009) considered risk acceptance as an antecedent factor that led to mobile marketing acceptance. Similarly, Al-Meshal & Almoitairi (2013) used risk acceptance as a key variable in their study. Both studies have found that risk acceptance levels were positively significant and influenced mobile marketing acceptance.

This study corroborates their findings. In this manner, it is deemed important to provide an understanding of the role played by risk acceptance, which is associated with mobile devices (in influencing higher education students). Also, respondents that have concerns regarding the risk acceptance variable, have shown their inclination to access content in the UAE market, similar to findings outlined by Saha & Sanyal (2015).

Furthermore, it is evident that there is a significant impact of personal attachment on mobile marketing acceptance. The significance value indicated by the p-value less than 0.01 reveals that mobile marketing acceptance is dependent on personal attachment. In addition, personal attachment might be able to explain 24% of the variance in mobile marketing acceptance, as indicated by R2 value equalling to 0.238.

Also, the beta coefficient of personal attachment (0.420) is positive. Therefore, it can be stated that if the value of personal attachment increases, then mobile marketing acceptance value will also increase. Personal attachment is one of the most important factors that is characterised by the self expression of users or the manner in which they personalize mobile features. These self features involve special content such as: wallpapers, ringtones, images, etc.

However, research studies which examine personal attachment are scarce (Kim, 2002 as cited in Al-Meshal and Almotairi (2013). Further, Huq *et al.* (2015) reveal that personal attachment is one of three factors (others being consumer innovativeness and perceived usefulness), that have a substantial impact on the attitude of consumers towards mobile marketing. This study has revealed that mobile marketing is providing a technological platform, in order to communicate with consumers by offering profitable and new opportunities for organisations. Meanwhile, consumers are able to personalize and create a device that fit their personal taste. Similar to the study of Sultan *et al.* (2009), this research has used personal attachment in the form of an independent variable and prove to be one of the leading factors influencing mobile marketing acceptance variable (as established in SEM).

It was also confirmed that there is a significant impact of providing information on Mobile marketing acceptance. The significance value (p-value<0.01) reveals that mobile marketing acceptance is dependent on providing information. In addition, providing information might be able to explain 26% of the variance in mobile marketing acceptance (R2 value = 0.256). Also, the beta coefficient of providing information (0.414) was positive. This finding conveys that if the value of providing information increases, then mobile marketing acceptance value will also increase.

Al-Meshal & Almotairi (2013) state that the use of mobile marketing is related to providing information either to send or to receive information. The first goal of mobile marketing is to give information to the final user. Thus, different information is accessible by utilizing phone devices. Many consumers need direct communication in order to seek information. The mobile network enables firms, marketers, and people to receive and send relevant information by accesing the subscriber, in terms of their geographic and demographic information (Huq *et al*. 2015) (Arumugam *et al.* 2015; Delafrooz & Zanjankhah, 2015).

This study corroborates their findings and found that providing information is one of the significant factors that influence mobile marketing acceptance. Equally, it was possible to verify that there is a significant impact of accessing content on mobile marketing acceptance. The significance value (p-value<0.01) reveals that mobile marketing acceptance is dependent on accessing content. Likewise, accessing content might be able to explain 30% of the variance in mobile marketing acceptance (R2 value = 0.297). Also, the beta coefficient of accessing content (0.565) was positive. This finding highlights that if the value of accessing content increases, then mobile marketing acceptance value will also increase. Al-Meshal & Almotairi (2013) reveal that the practice of mobile marketing has opened the gateway for people who are inclined to use abundant content.

Mobile marketing enables people to access more content than normally transmitted via traditional channels such as email. Research studies have found that information privacy content received by mobile users is a problem, which can be eradicated by other factors. The likelihood of accessing various contents depends more on mobile devices, experience, and expectations (Arumugam *et al.* 2015) (Zhang *et al.* 2018). Similarly, Sultan *et al.* (2009) found that accesing content is one of the mobile activities that has an impact on mobile marketing acceptance.

The impact of sharing content on mobile marketing acceptance was also verified. The significance value (p-value<0.01) reveals that mobile marketing acceptance is dependent on sharing content. Moreover, sharing content is able to describe 27% of the variance in mobile marketing acceptance (R2 value = 0.267). Also, the beta coefficient of sharing content (0.529) was positive. It reveals that if the value of sharing content increases, then mobile marketing acceptance value will also increase. Consumers are generally involved in mobile marketing in order to share or pass information along e.g text content.

Therefore, the content has to be relevant and must be accepted by the consumers. The content acceptance related to digital channels was perceived as threatening by consumers with high-involvement and was deemed positive by those having low involvement (Malik *et al.* 2016). Bedor (2016) suggests that the "content-centric" mobile application has to be used in a way that will enable regular usage and personalisation of the message. In this manner, with regards to content, a community could be built.As recommended by Du Plessis (2015), mobile content marketing sheds light on giving value to consumers by providing solutions to their problems. These will allow consumers to create and share stories and attain content entertainment value that appeals to them.

Bullas (2014) advocates that brand fans must be inclined to generate content (involving visuals), in order to share within a mobile community. The content provided at the time of the mobile opt-in process, allows marketers to personalise their practice of mobile marketing in order to build a proximate relationship with consumers.Sharing content was also found to have an impact on mobile marketing acceptance in the studies of Sultan *et al*. (2009) and Al-Meshal and Almotairi (2013). Sending and receiving content was characterized by the ability of consumers to engage with family and friends and pass information along.

Lastly, it was established that there is a significant impact of perceived value on mobile marketing acceptance. The significance value (p-value<0.01) reveals that mobile marketing acceptance is dependent on perceived value. In addition, perceived value might be able to explain 31% of the variance in mobile marketing acceptance (R2 value = 0.307). The beta coefficient of perceived value (0.594) was positive. This finding reveals that if perceived value increases, then mobile marketing acceptance value will also increase.

The perceived value of users to be involved in a mobile marketing evolves around their individual needs, the thirst for knowledge, sharing or acquiring exclusive content access, thus allowing consumers to perceive more benefits. When companies "optimise customer experience" or provide continuous interactions where the individual needs of consumers are addressed, it leads consumers to deem mobile marketing as worthwhile and beneficial. The brands therefore must "fulfil the role of a trusted partner" in real time. Users must further be given the idea that the time and effort they put into using mobile marketing will be later rewarded.

This provides the members of a community the idea of valuable, exclusive and unique information that is applicable to their day-to-day lives (Du Plessis, 2017) (Donga *et al.* 2018) (ALHuwaishel & AL-Meshal, 2018). The studies of Sultan *et al.* (2012) and Al-Meshal and Almoitairi (2013) also found that perceived value was one of the factors that influence the acceptance of mobile marketing by its users. Their studies revealed that users need to be able to understand the benefits of using mobile marketing when compared to the time, effort and money they trade off in order to engage in those services. The findings of this research similarly validates that outcome.

In conclusion, the six independent variables were considered to have a positive significant impact (risk acceptance, personal attachment, providing information, accessing content, sharing content, perceived value and sharing content) on mobile marketing acceptance.

The association between risk acceptance, personal attachment, providing information, accessing content, sharing content, perceived value and mobile marketing acceptance presented is in the previous chapter. The significance value (p-value<0.05) clearly reveals that risk acceptance (β=0.193, p=0.001<0.01), personal attachment (β=0.112, p=0.002<0.01), providing information (β=0.131, p=0.000<0.01), accessing content (β=0.139, p=0.006<0.01), sharing content (β=0.143, p=0.020<0.05) and perceived value (β=0.232, p=0.000<0.01) have positively influenced mobile marketing acceptance. In addition, 53% of the variation in mobile marketing acceptance is dependent on those variables (R-square=0.527).

Drawing upon Technology Acceptance Model and User and Gratifications Theories, it is established that the proposed conceptual model is deemed valid and supports the multiple hypothesis paths of the independent variables of the study. Risk acceptance, personal attachment, providing information, accessing content, sharing content and perceived value are considered predicting indicators of mobile marketing acceptance among higher education students in the UAE.

4.12 Discussion of the research model

Two theoretical areas, Technology Acceptance Model (TAM) and Gratifications Theory have been broadly employed in marketing literature and are used as a means to describe the behaviour of individuals associated with the usage of technology and its intention of use. The proposed model shows that mobile marketing related activities that target higher education students, have an impact on their mobile marketing services acceptance. This finding contributes significantly to the current body of knowledge in the following ways. Firstly, in this study, the researcher has identified risk acceptance, personal attachment, providing information, accessing content, sharing content, and perceived value as influencing mobile marketing acceptance.

While a number of similar studies exist in other countries like China, Pakistan, South Africa, Saudi Arabia and the USA, to this day there has been very limited research conducted in the Middle East region, specifically within the UAE context.

Secondly, the study considered both antecedent-based marketing factors and marketing related activities, especially amongst higher education students. In order to analyse the fitness of the model presented in Chapter 4, SEM analysis was conducted in which CFA and Full order model analysis and paths were validated. While using CFA, the indicators proposed by Hair *et al.* (2006) were garanteed. Thus, $\chi 2$ /df was deemed appropriate, since it was less than 5. Other indicators such as CFI, GFI, AGFI were assured, since their values were greater than 0.9. Similarly, RMR and RMSEA values obtained were less than 0.08. Hence, it is evident that the model considered for the research study has achieved model fit. This model represents a better fit when compared to the studies of Gao *et al.* (2010) and Sultan *et al.* (2009).

When compared, factors which were described as mobile marketing related activities (and used as mediator variables) by Sultan *et al.* (2009) were also found to be significant as independent variables. The study of Al-Meshal and Almotairi (2013) was the first of its kind in the Middle East region and used the same variables as this study (except for Personal Attachment) and also found them to influence mobile marketing acceptance. The main limitations of the model in their study was the use of non-probabilistic sampling and the fact that only regression analysis was employed. Thus, the generalization of their findings was rather limited. Also, Factor Analysis or Confimatory Factors Analysis were not addressed in their study. In contrast, this study uses EFA and CFA and provides validation of the results. Thus, building upon the studies previously conducted by Sultan *et al.* (2009) and Al-Meshal and Almoitairi (2013).

Since testing the model has increased the reliability of the instrument and improved the vailidity of the constructs used, this research could act as the first model that attested the factors influencing mobile marketing acceptance in the UAE region. This adds originality value, which can be contributed to the mobile marketing and technology acceptance model fields in general.

4.13 Conclusion

In line with the chapter regarding data analysis, the researcher verified all the components of the data set. The demographics and socio-economical questions were analyzed and provided a better description of the respondents of the study. The data was rolled on to EFA, where 7 factors were extracted and allowed to proceed further to CFA. Cronbach Alpha for all the variables were attested and this proved that the statements measured what they intended to measure. All multi-item scales show strong internal consistency among items. The use of SEM, where the Confirmatory Factors Analysis was conducted, allowed for the model to be tested.

According to the indicators (AGFI, GFI, CFI, NFI, RMR, RMSEA), it can be assumed that the model in this study is acceptable. Pearson and Regression analysis showed that all variables of the study have an impact on mobile marketing acceptance and were used to accept and reject the initial hypotheses. Finally, a discussion of the findings was highlighted. Chapter five will focus on recommendations, limitations of the study, guidance for future research and conclude the research.

5 Chapter V Conclusion

5.1 Introduction

The widespread use of mobile phones and the increase in subscriber numbers have prompted marketers, including educational institutions, to adopt the concept of mobile marketing as an innovative means of communication. With this background knowledge, one of the objectives of the present study was to develop a conceptual model based on Technology Acceptance Model (TAM) and User's Gratification Theory model. In addition, the study also looked at the influence of risk acceptance, personal attachment, providing information, accessing content, sharing content, and perceived value on higher education consumers in the United Arab Emirates (UAE).

In order to achieve the above aim, the researcher developed a theoretical framework based on the factors considered in the study, which lead to a greater acceptance of mobile marketing practice. This chapter concludes the research study and further highlights the findings of the previous chapter, alongside recommendations, limitations of the study and areas for future research. The chapter ends with a conclusion.

5.2 Recommendations

Marketers must aim to develop messages related to mobile marketing, which can in turn raise efficiency, assist with decision making and save money for higher education consumers. For instance, sending an invitation through a mobile device can improve a consumer's decision making process and at the same time save the consumer money (Ström *et al.* 2014). This can in turn result in greater perceived value. The importance of accurate personalized content is emphasized, since ads are more valuable when they fit the consumers' needs, rather than displaying irrelevant messages that can result in annoyance (Kim & Han, 2014).

In addition, the UAE higher education consumers will feel more comfortable with mobile marketing, if their permission is obtained before mobile marketing messages are shown. Hence, mobile marketers in the UAE should deliver value through adapting the messages to educational consumers, while simultaneously exuding caution to avoid appearing intrusive. This will in turn enabe consumers to opt-in.

Generally, it is not recommended to send mobile marketing messages solely through text messaging channels, since UAE higher education consumers are already using different types of mobile marketing services. They demonstrate a willingness to receive and use different types of mobile marketing generated content. Alternatively, marketers should offer coupons, web offers, and ads that are appropriate to the needs of said consumers, as well as provide entertainment content and relevant information.

In the case of mobile marketing in the UAE, marketers should focus on building trust, since this makes these consumers feel more comfortable with mobile marketing. Besides asking for permission, it is essential that consumers know the organization (brand). Therefore, the UAE marketers should aim to raise awareness of some mobile marketing services, such as mobile banking, mobile payments etc. They should also target the consumers that have already visited the webpage, in other words perform retargeting strategies, since these users already know the brand.

Furthermore, they could take into account the collectivistic nature of education consumers, which implies that consumers are strongly influenced by their peers (Jiménez & SanMartín, 2017; Muk & Chung, 2015). It could be considered effective to create mobile marketing campaigns that rely on peer-to-peer communication by smartphone users, such as a viral marketing campaign. This would allow consumers to interact and share information, thus creating a buzz. The UAE higher educational consumers require encouragement in order to increase the adoption of mobile marketing.

To address this issue, organisations should engage in persuading consumers of the benefits attributed by the implementation of mobile marketing services. Once consumers acknowledge the above value and think it is worthwhile to them in their daily lives, it will influence them to experiment and possibly to accept it. This will allow companies to create and distribute information via websites and mobile pages in an effective manner. In sum, this would encourage the consumers in higher education to accept and later adopt companies' mobile marketing related services.

5.3 Research limitations

The study encompasses the following limitations. Firstly, the study has been conducted specifically within the UAE population, specifically within the realm of higher education students. Thus, the generalizability of the findings is rather limited. The mobile penetration rate in the UAE is different when compared to all other UAE emirates, age groups and income groups, hence the findings only reflect local university students.

Secondly, the researcher disregarded the variable 'user behavior', in order to actively capture the acceptance of mobile marketing. Additionally, the study has used structural equation modeling to test the independent and dependent variables and their relationships. However, such inclusion of variables is not limited to theses variables only, other variables might affect this relationship and have not been tested in this study. Therefore, it is worth investigating in future research. Lastly, there is always issues regarging certain time constraints regarding the deadlines of a PhD, which can often act as a limitation of the study as well.

5.4 Areas for future research

Despite the above limitations, the study has successfully achieved its set objectives and there are several recommendations suggested for scholars to extend this research. A cross-cultural study would shed light on mobile acceptance, especially useful to mobile marketers, who intend to market their products in different countries with different cultures. Comparing the results of Middle East and North African regions could be a possibility in the future, since these regions share similar cultural and religious similarities.

This study was quantitative in nature, and employed both descriptive and explanatory research. Future research should focus on interviews with managers and marketers in the UAE. As well as having focus groups with smartphone users, this would potentially provide a deeper understanding of the topic. Other possibilities could include repeating the same study and updating the questionnaire (appendix A) with new and relevant content. Then, applying and testing it in different population segments, in order to see different aspects that were possibly overlooked in the research. Finally, future studies can also measure the actual acceptance of mobile marketing, instead of behavior intention, thereby achieving more reliable results. It is also recommended that further studies adopt a probabilistic sample if possible, in order to gain a more valid and reliable generalization of results.

5.5 Conclusion

Overall, the study confirmed that among higher education students in the UAE, mobile marketing factors: risk acceptance, personal attachment, providing information, accessing content, sharing content, and perceived value lead to a greater acceptance of mobile marketing acceptance programmes.

The research question posed and the objectives of the thesis in Chapter 1 were achieved, since this research was able to identify, explain and measure the relationship between the factors that influence mobile marketing acceptance. Mainly, this research has accomplished its main goals, yet has also successfully fulfilled the motivations that led to conducting this thesis to start with. This study has contributed to the body of knowledge of Technology Acceptance Models, by extensively reviewing literature on the topic.

The literature review was divided into main sub-areas, where marketing, consumer behavior, e-commerce, internet, mobile marketing and its factors were discussed. Through the analysis of Technology Acceptance theories notably (TAM, TAM2, SCT, IDT, CTAM, TRA, TPB and LUM), a rich theoretical background was created in order to undertand the reasons that lead consumers intention to use a specific technology. Thus, this study supplements existing information regarding mobile marketing acceptance in general and in the UAE specifically. Mainly, its originality value arises from the new information provided regarding the current situation of mobile marketing and its services in the country. Further, this highlights socio-economical and demographic information regarding the higher education segment, which can be used to perform better targeting strategies.

The methodology used in the study process assured the reliability and vailidity of results. The quantitative and explanatory analysis were facilitated by the use of a questionnaire. The use of stratified probability sampling guarantees a cross sectional distribution of the particpants. The survey was not only tested for reliability and content validity, but also tested for construct validity. Mainly, construct validity and discriminant validity were attained by the use of Cronbach Alpha and SEM analysis. A pilot study was also conducted and a questionnaire was translated into Arabic, before it was distributed to participants. Marketing instructors have also contributed to assure face vailidity of the instruments and scales. All these steps were crucial, thus, allowing for the generalization of results within UAE higher education federal institutions.

In addition, the validation of the proposed conceptual model was verified with the use of Structural Equation Modeling and path analysis, which revealed that all factors were significant leading to mobile marketing acceptance. Assisted by Pearson and Regression analysis, it was possible to support all study hypotheses and conclude that there was a positive relationship between those factors and mobile marketing acceptance. Futhermore, the regression analysis showed that 53% of the variance of the independent variables were able to explain and predict the outcome of the dependent variable.

The findings of this study builds upon three main studies of Sultan et *al.* (2009), Sultan et *al.* (2102), and Al-Meshal & Almoitairi (2013). Despite many studies regarding mobile marketing acceptance worldwide, this study appears to be the first of its kind in the UAE. Resulting from the footsteps of Al-Meshal and Almotairi (2013), this research validates and further adds a new conceptual model that can be used by marketing practitioners, as well as researchers. Thus, increasing user's interaction and retention in their mobile marketing campaigns, or to create and develop new research studies.

Therefore, it is recommended that higher education individuals visualise their mobile phones as a reflection of the self and an accessory of social status, which can convey personal identity, similar to the role of other fashion trends. In turn, the personal attachment may impact the mobile marketing acceptance, similar to the forms of sharing and accessing content. This finding is vital, since it further establishes the significant role played by social acceptance within consumer groups, as a pointer to technology acceptance.

This study demonstrates that there may be higher hesitance level among respondents, which may be a result of the levels of risk acceptance (in order to access the content), due to heightened personal privacy concerns. An effect that is related to this finding is that facilitating the mobile activity through value and trust-based approaches, encourage individuals to provide personal information, access and share content.

This indicates a key step in strengthening the intent to engage in mobile marketing. More and more people in emerging markets, like in the UAE, have access to data and voice mobile communications. As a result, this research has focused on higher education students as the main segment of mobile marketing usage. Despite gender, age, income, household type or location, there is readiness on the part of consumers in order to interact and engage in the mobile marketing space. This is specifically with regard to mobile marketing services and the rising economic availability of mobile phones.

Organizations or brands competing or entering this market may seek to stress the mobile platform for promotional and advertising efforts, or other forms of providing entertainment and information to its user. This can be used to capitalize on favourable acceptance characteristics, like the use of mobile activity and the rising utilization of mobile phones to increase brand equity.

It is vital for managers to understand the obstacles and drives that influence the acceptance of practices related to mobile marketing. The findings from this research recommend actions to managers, which can be included in the development of mobile marketing programmes and strategies. This research study recommends that managers recognize the impact of personal attachment and personalization needs, which are associated with mobile phones among students of higher education.

As outlined in the findings, mobile marketing services are already at a good level of usage and companies should continue to invest and educate consumers on the benefits that arise from their use. It can be of extreme importance in the way they undertake their sales effort and communication diffusion.The perceived value and effort that consumers undertake in order to use mobile marketing was considered significant, meaning higher education consumers will accept mobile marketing services as long as they see that there is a gain or reward that comes along with it.

The willingness of consumers to provide information to a company (such as their email address or personal information) is positively related to their acceptance or behavior intent. Therefore, companies should make efforts in explaining to consumers the advantages of interactivity and promote feedback among consumers and organizations.

Finally, on a personal note, this research has increased my passion for marketing and specifically consumer behavior. Mobile marketing is a topic that is going to undergo more and more changes in upcoming years, with the development, appearance and integration of new applications and technologies. With that in mind, there is a big future for research in this field, with a need to keep in line with market trends, which are constantly being made. This is specifically relevant when it comes to undertanding how it influences the adoption and intent behavior of consumers.

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7 APPENDIX

7.1 Appendix A. Coded questionnaire

Questionnaire

The following questionnaire is part of a study conducted for PhD completion at Fernando Pessoa University (Portugal), regarding Mobile Marketing acceptance by Higher Education students in the UAE. Please note that your answers are completely anonymous and your personal details and information will not be made public. Your responses will be combined with those of many other respondents and then summarized in a report that will protect your anonimity. This questionnaire will take maximum 5-10 minutes of your time. I would like to thank you in advance for your time and willingness to participate in this study. If you have any queries or you wish to know more about this study and its results, please feel free to contact me: Pedrocoelhoso.rp@gmail.com

Section I: Personal information

S.no	Personal information
CQ.	**Have you ever used mobile marketing services?** Yes ❑ No ❑
1.	Gender ❑ Male ❑ Female
S.Q	Which Federal University are you currently attending ? ❑ HCT ❑ZU ❑ UAEU

2.	Age _____
3.	Education level/level of studies ❑ Diploma degree ❑ Bachelor degree ❑ Master degree ❑ PhD degree
4.	Geographical area (live) Abu Dhabi ❑ Dubai ❑ Sharjah ❑ Fujairah ❑ RAK ❑ Ajman ❑ Others ❑
5	Income (available monthly income): 0-5000 AED ❑ 5001-10000 AED ❑ 10001-15000 AED ❑ 15001-20000 AED 20001-25000 AED ❑ More than 25000AED ❑
6	Do you live: Alone ❑ Family ❑ Friends ❑ Husband/Spouse ❑ Others ❑
7	Residency/ Property type: Apartment ❑ Townhouse ❑ Villa ❑ Compound ❑ Others ❑
8	**Which type of mobile marketing services have you used? Please check all answers that apply**. Mobile Entertainment (music,ring-tones,video,etc) ❑ Mobile Banking ❑ Mobile Information (news,weather news, sportnews, traffic information), ❑ Mobile Payment (Utility bills,etc) ❑ Mobile Coupons (receiving and redeem coupons) ❑ Mobile Internet ❑ Mobile Contests ❑

Section II

This section explains about the antecedent factors such as risk acceptance and personal attachment. Please check the box that best describes your level of agreement with each of the following statements. Please check（✓）in one of the boxes below according to the following scale:

1. Strongly Disagree 2. Disagree 3.Neutral 4. Agree 5. Strongly Agree

S.no	Risk Acceptance (Adopted from Bauer et al 2005)	1	2	3	4	5
R1.	I would provide a web site with personal information (such as my e-mail address) to receive a small gift	❑	❑	❑	❑	❑
R2.	I would provide a web site with personal information (such as my e-mail address) to enter in a contest	❑	❑	❑	❑	❑
R3.	I would provide a web site with personal information (such as my e-mail address) to receive discounts on future purchases	❑	❑	❑	❑	❑
	Personal attachment					
PA4.	I like to customize my cellphone with interesting screen graphics or wallpaper/images, animations.	❑	❑	❑	❑	❑
PA5.	The way my cellphone looks and is designed is important to me.	❑	❑	❑	❑	❑
PA6.	I like to customize my cellphone with music, ringtones, images, etc.	❑	❑	❑	❑	❑

Section III

Marketing related Mobile Activity

This section explains about marketing related mobile activities. Please check the box that best describes your level of agreement with each of the following statements. Please check （✓）in one of the boxes below according to the following scale:

1. Strongly Disagree 2. Disagree 3.Neutral 4. Agree 5. Strongly Agree

Sno	Statements (Adopted from Sultan et al. 2009)	1	2	3	4	5
	Providing information					
PI1.	I would provide my e-mail address to a web site using my cellphone	❑	❑	❑	❑	❑
PI2.	I would register with a web site using my cellphone	❑	❑	❑	❑	❑
PI3.	I would register for a contest or promotion using my cellphone	❑	❑	❑	❑	❑
	Accessing content					
AC4.	Download content (images, music, information) using my cellphone	❑	❑	❑	❑	❑
AC5.	I would access fun and entertaining content such as music or games using my cellphone	❑	❑	❑	❑	❑
AC6.	I would pay for content such as games or music for my cellphone	❑	❑	❑	❑	❑
	Sharing content					

SC7.	Friends often send me cool downloads such as music or screen graphics (e.g., images, gifs, website links, etc) on my cellphone	❑	❑	❑	❑	❑
SC8.	I often send my friends new screen graphics (e.g., images, Gifs, website links, etc) or ringtones (e.g music files) on their cellphones.	❑	❑	❑	❑	❑
	Perceived Value (Adopted from Sultan et al. 2012)					
PV9.	When compared to the fee (e.g., application fee, registration fee, etc), I need to pay, the use of mobile marketing offers value for money.	❑	❑	❑	❑	❑
PV10.	When compared to the effort (e.g., learn how to use,), I need to put in, the use of mobile marketing is beneficial to me.	❑	❑	❑	❑	❑
PV11.	Compared to the time (e.g., searching time, time spent), I need to spend, the use of mobile marketing is worthwhile to me.	❑	❑	❑	❑	❑

Section IV

Mobile marketing acceptance

This section explains about the mobile marketing acceptance. Please check the box that best describes your level of agreement with each of the following statements. Please check（✓）in one of the boxes below according to the following scale:

1. Strongly Disagree 2. Disagree 3.Neutral 4. Agree 5. Strongly Agree

Sno	**Mobile marketing acceptance (Adopted from Sultan et al. 2009)**	**1**	**2**	**3**	**4**	**5**
MMA1.	I would be willing to receive information on where to buy certain products or services on my cellphone	❑	❑	❑	❑	❑
MMA2.	I would be willing to receive offers on my cellphone from companies selling products related to an event I am attending (for instance, a sporting event)	❑	❑	❑	❑	❑
MMA3.	Overall, I would be willing to receive solicitations from companies to whom I gave my permission	❑	❑	❑	❑	❑

Thank you for your Response

7.2 Appendix B. Questionnaire arabic version

استبيان

الاستبيان التالي هو جزء من دراسة أجريت لإتمام الدكتوراه في جامعة فرناندو بيسوا (البرتغال) ، فيما يتعلق بقبول التسويق المحمول من قبل طلاب التعليم العالي في دولة الإمارات العربية المتحدة. يرجى ملاحظة أن إجاباتك مجهولة تمامًا ولن يتم الإعلان عن بياناتك ومعلوماتك الشخصية. سوف يتم الجمع بين إجاباتك وتلك الردود الخاصة بالعديد من المستجيبين الآخرين ثم تلخيصها في تقرير يحمي خصوصيتك. سيستغرق هذا الاستبيان 5-10 دقائق كحد أقصى من وقتك. أود أن أشكرك مقدمًا على وقتك واستعدادك للمشاركة في هذه الدراسة. إذا كان لديك أي استفسارات أو كنت ترغب في معرفة المزيد عن هذه الدراسة ونتائجها ، فلا تتردد في الاتصال بي:

Pedrocoelhoso.rp@gmail.com

القسم الأول: المعلومات الشخصية

	المعلومات الشخصية
	هل سبق لك استخدام خدمات التسويق المحمول؟ ❑ لا ❑ نعم
1	الجنس أنثى ❑ ذكر ❑
	أي جامعة اتحادية تنتسب اليها حاليا؟ جامعة الامارات ❑ جامعة زايد ❑ كليات التقنية العليا ❑
2	العمر _____
3	مستوى التعليم دبلوم ❑ بكالوريوس ❑ ماجستير ❑ دكتوراه ❑

4	المنطقة الجغرافية أم القيوين ❑ عجمان ❑ رأس الخيمة ❑ الفجيرة ❑ الشارقة ❑ دبي ❑ أبو ظبي ❑
5	الدخل الشهري 0-5000 AED ❑ 5001-10000 AED ❑ 10001-15000 AED ❑ 15001-20000 AED 20001-25000 AED ❑ أكثر من 25000AED ❑
6	تعيش: ❑ بمفردك ❑ مع الأهل ❑ مع الأصدقاء ❑ مع الزوج/الزوجة ❑ احتمال آخر
7	الإقامة / نوع العقار: ❑ شقة ❑ منزل ❑ فيلا ❑ مجمع ❑ احتمال آخر
8	ما نوع خدمات التسويق عبر الهاتف المحمول التي استخدمتها؟ يرجى التحقق (√) من جميع الإجابات التي تنطبق عليك. المصرفية عبر الهاتف المحمول ❑ ترفيه المحمول (موسيقى ، نغمات ، فيديو ، إلخ) ❑ ❑ معلومات الجوال (الأخبار ، أخبار الطقس ، أخبار الرياضة ، حركة المرور) ، ❑ الدفع بواسطة الهاتف النقال (فواتير المرافق ، إلخ) ❑ الإنترنت عبر الهاتف النقال ❑ كوبونات المحمول (استلام واستبدال القسائم) ❑ مسابقات المحمول

القسم الثاني: العوامل السابقة

يشرح هذا القسم العوامل السابقة مثل قبول المخاطر والتعلق الشخصي. يرجى تحديد المربع الذي يصف أفضل مستوى موافقتك مع كل عبارة من العبارات التالية. الرجاء التحقق (√) من أحد المربعات أدناه وفقًا للمقياس التالي

أوافق بشدة .5 أوافق .4 محايد.3 لا أوافق .2 لا أوافق بشدة .1

	قبول المخاطر	5	4	3	2	1
1	قد أعطي لموقع على شبكة الإنترنت معلوماتي الشخصية (مثل عنوان بريدي الإلكتروني) لاستلام هدية صغيرة	❑	❑	❑	❑	❑
2	قد أعطي لموقع على شبكة الإنترنت معلوماتي الشخصية (مثل عنوان بريدي الإلكتروني) للدخول في مسابقة	❑	❑	❑	❑	❑

3	قد أعطي لموقع على شبكة الإنترنت معلوماتي الشخصية (مثل عنوان بريدي الإلكتروني) لتلقي تخفيضات على المشتريات في المستقبل	❑	❑	❑	❑	❑
	التعلق الشخصي					
4	أحب تخصيص هاتفي المحمول برسومات الشاشة، الخلفية / الصور أوالرسوم المتحركة المثيرة للاهتمام.	❑	❑	❑	❑	❑
5	شكل هاتفي الخليوي وتصميمه مهم بالنسبة لي.	❑	❑	❑	❑	❑
6	أحب تخصيص هاتفي المحمول بالموسيقى ونغمات الرنين والصور وما إلى ذلك.	❑	❑	❑	❑	❑

القسم الثالث: أنشطة المحمول ذات الصلة بالتسويق

يشرح هذا القسم أنشطة المحمول ذات الصلة بالتسويق. يرجى تحديد المربع الذي يصف أفضل مستوى موافقتك مع كل عبارة من العبارات التالية. الرجاء التحقق (√) من أحد المربعات أدناه وفقًا للمقياس التالي

1. لا أوافق بشدة 2. لا أوافق 3. محايد 4. أوافق 5. أوافق بشدة

	بيانات	5	4	3	2	1
	تقديم المعلومات					
1	أنا على استعداد لتقديم عنوان البريد الإلكتروني الخاص بي إلى موقع ويب باستخدام الهاتف المحمول الخاص بي	❑	❑	❑	❑	❑
2	أنا على استعداد للتسجيل مع موقع على شبكة الإنترنت باستخدام هاتفي المحمول	❑	❑	❑	❑	❑
3	أنا على استعداد للتسجيل في مسابقة أو للترويج باستخدام هاتفي المحمول	❑	❑	❑	❑	❑
	الوصول إلى المضمون					
4	انا على استعداد لتنزيل المضمون (الصور والموسيقى والمعلومات) باستخدام هاتفي المحمول	❑	❑	❑	❑	❑
5	انا على استعداد للوصول إلى مضمون ممتع ومسلٍ مثل الموسيقى أو الألعاب باستخدام هاتفي المحمول	❑	❑	❑	❑	❑
6	انا على استعداد أن أدفع مقابل المضمون مثل الألعاب أو الموسيقى لهاتفي المحمول	❑	❑	❑	❑	❑
	تبادل المضمون					
7	غالبًا ما يرسل لي الأصدقاء تنزيلات رائعة مثل الموسيقى أو رسومات الشاشة (على سبيل المثال الصور ، روابط مواقع الويب ، إلخ) على هاتفي المحمول	❑	❑	❑	❑	❑

8	غالبًا ما أرسل إلى أصدقائي رسومات الشاشة الجديدة (مثل الصور ، روابط مواقع الويب ، إلخ) أو نغمات الرنين (مثل ملفات الموسيقى) على هواتفهم الخلوية	❑	❑	❑	❑	❑
	القيمة المدركة					
9	مقارنة بالرسوم (على سبيل المثال ، رسوم الطلب ، رسوم التسجيل ، إلخ) المتوجب علي دفعها، فإن استخدام التسويق عبر الهاتف المحمول يقدم قيمة مقابل المال.	❑	❑	❑	❑	❑
10	مقارنة بالجهد (على سبيل المثال ، تعلم كيفية الاستخدام) ، المتوجب علي بذله ، فإن استخدام التسويق عبر الهاتف المحمول مفيد لي.	❑	❑	❑	❑	❑
11	مقارنة بالوقت (على سبيل المثال ، وقت البحث ، الوقت المستغرق) ، المتوجب علي قضائه ، فإن استخدام التسويق عبر الهاتف المحمول يستحق العناء بالنسبة لي.	❑	❑	❑	❑	❑

القسم الرابع: قبول التسويق المحمول

يشرح هذا القسم قبول التسويق عبر الهاتف المحمول. يرجى تحديد المربع الذي يصف أفضل مستوى موافقتك مع كل عبارة من العبارات التالية. الرجاء التحقق (√) من أحد المربعات أدناه وفقًا للمقياس التالي

5. أوافق 4. محايد3. لا أوافق 2. لا أوافق بشدة 1. أوافق بشدة

	قبول التسويق المحمول	5	4	3	2	1
1	سأكون على استعداد لتلقي معلومات حول مكان شراء منتجات أو خدمات معينة على هاتفي المحمول	❑	❑	❑	❑	❑
2	سأكون على استعداد لتلقي العروض على هاتفي المحمول من الشركات التي تبيع المنتجات ذات الصلة بالحدث الذي أحضره (على سبيل المثال ، حدث رياضي)	❑	❑	❑	❑	❑
3	بشكل عام ، سأكون على استعداد لتلقي عروض من الشركات التي أعطيتها الإذن	❑	❑	❑	❑	❑

شكرا لاستجابتكم