

**T.C.**  
**ISTANBUL AYDIN UNIVERSITY**  
**INSTITUTE OF SOCIAL SCIENCES**



**THE ACCEPTANCE OF MOBILE TRAVEL APPLICATIONS:  
A RESEARCH WITH THE INTEGRATION OF TECHNOLOGY  
ACCEPTANCE MODEL**

**MASTER THESIS**

**Mohammed IRAQI HOUSSAINI**

**Department of Business**

**Business Administration Program**

**Thesis Advisor: Asst. Prof. Dr. Burçin KAPLAN**

**August 2017**

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SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜ

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İmzası

Tez Savunma Tarihi :16/08/2017

1)Tez Danışmanı: Yrd. Doç. Dr. Burçin KAPLAN

2) Jüri Üyesi : Doç. Dr. Erginbay UĞURLU

3) Jüri Üyesi : Yrd. Doç. Dr. Alev Dilek AYDIN

Not: Öğrencinin Tez savunmasında **Başarılı** olması halinde bu form **imzalanacaktır**. Aksi halde geçersizdir.

## **FOREWORD:**

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**August 2017**

**Mohammed IRAQI HOUSSAINI**

## TABLE OF CONTENT:

	<u>Page</u>
<b>FOREWORD:</b> .....	iii
<b>TABLE OF CONTENT:</b> .....	v
<b>ABBREVIATIONS:</b> .....	vii
<b>LIST OF TABLES:</b> .....	viii
<b>LIST OF FIGURES:</b> .....	ix
<b>ABSTRACT:</b> .....	x
<b>ÖZET:</b> .....	xi
<b>1. INTRODUCTION:</b> .....	12
1.1. Introduction .....	12
1.2. Problem Statement .....	14
1.3. Hypothesis .....	15
1.4. The Research Variables.....	16
1.5. Research Aim & Objectives .....	16
1.6. Approach and Methodology.....	17
<b>2. LITERATURE REVIEW:</b> .....	18
2.1. Tourism In Brief:.....	18
2.2. Concept of Electronic Commerce (E-Commerce): .....	20
2.2.1. E-Commerce definition:.....	21
2.2.2. Business application of e-commerce: .....	21
2.2.3. Advantages and limits of application of electronic commerce:.....	23
2.2.4. E-commerce forms:.....	26
2.2.5. Impact on markets and retails: .....	28
2.3. Electronic Commerce and Tourism:.....	33
2.3.1 Electronic tourism:.....	33
2.3.2. Market size:.....	35
2.3.3. Advantages of adoption e-tourism: .....	38
2.3.4. Limits of adoption of e-tourism: .....	40
2.3.5. Forms of E-tourism: .....	42
2.3.6. The cycle of a journey:.....	47
2.3.7. Essential components of a site: .....	48
2.3.8. E-tourism and trust:.....	49
2.4. Mobile Electronic Commerce (MEC): .....	50
2.4.1. Reasons of development of m-commerce:.....	51
2.4.2. Mobile e-commerce fields: .....	55
2.4.3. Advantages and disadvantages of m-commerce: .....	57
2.4.4. Payments via mobile: .....	60
2.5. Mobile Applications in Tourism Sector: .....	63
2.5.1. Consumer's behavior: .....	64
2.5.2. Mobile tourism:.....	65
2.5.3. Mobile travel applications:.....	65

2.6. Constructs of Technology Acceptance Model and Information Adoption	
Model: .....	67
2.6.1. Perceived usefulness (PU): .....	70
2.6.2. Perceived ease of use (PEOU): .....	71
2.6.3. Behavioral intention to use information (BITUI): .....	72
2.6.4. Perceived trustworthiness (PT): .....	72
<b>3. RESEARCH MODEL, HYPOTHESIS:</b> .....	<b>74</b>
<b>4. METHODOLOGY:</b> .....	<b>76</b>
4.1. Research Paradigm: .....	76
4.2. Instrument Design: .....	77
4.2.1. Online survey: .....	79
4.3. Sampling and Data Collection: .....	79
<b>5. DATA ANALYSIS, DISCUSSIONS:</b> .....	<b>83</b>
5.1. Socio-demographic Profile: .....	83
5.2. Empirical Analysis: .....	85
5.2.1. Sample size for SEM: .....	85
5.2.2. Analysis of perceived ease of use: .....	90
5.2.3. Analysis of perceived usefulness: .....	91
5.2.4. Analysis of perceived trustworthiness: .....	91
<b>6. CONTRIBUTIONS, LIMITATIONS AND RECOMMENDATIONS:</b> .....	<b>92</b>
6.1. Contributions to Theory and Practice: .....	92
6.2. Limitations and Recommendations: .....	93
<b>7. CONCLUSION:</b> .....	<b>94</b>
<b>REFERENCES:</b> .....	<b>95</b>
<b>APPENDICES</b> .....	<b>114</b>
<b>QUESTIONNAIRE SURVEY:</b> .....	<b>115</b>
<b>RESUME</b> .....	<b>122</b>

## **ABBREVIATIONS:**

<b>TRA</b>	:Theory of Reasoned Action
<b>B2B</b>	:Business to Business
<b>B2C</b>	:Business to Consumer
<b>C2B</b>	:Consumer to Business
<b>C2C</b>	:Consumer to Consumer
<b>CR</b>	:Critical Ratio
<b>DMS</b>	:Destination Management Systems
<b>GDP</b>	:Gross Domestic Product
<b>GPS</b>	:Global Positioning System
<b>IAM</b>	:Information Adoption Model
<b>ICT</b>	:Information and Communication Technologies
<b>ITU</b>	:International Telecommunication Union
<b>KMO</b>	:Kaiser-Meyer-Olkin coefficient
<b>MEC</b>	:Mobile Electronic Commerce
<b>MTA</b>	:Mobile Travel Applications
<b>SEM</b>	:Structural Equation Modeling
<b>SPSS</b>	:Statistical Package for the Social Sciences
<b>TAM</b>	:Technology Acceptance Model
<b>UNWTO</b>	:World Tourism Organization
<b>WTTC</b>	:The World Travel & Tourism Council

**LIST OF TABLES:**

	<b><u>Page</u></b>
<b>Table 2.1:</b> Global tourism Overview.....	20
<b>Table 2.2:</b> Digital travel sales by region .....	37
<b>Table 2.3:</b> The demographic digital divide is real and pervasive owning a Smartphone .....	53
<b>Table 2.4:</b> List of studies in technology and tourism area. ....	69
<b>Table 4.1:</b> List of construct and scale items .....	78
<b>Table 5.1:</b> Summary of socio-demographic profile.....	83
<b>Table 5.2:</b> Descriptive statistics of the factor constructs.....	86
<b>Table 5.3:</b> Kaiser-Meyer-Olkin and Bartlett's test .....	87
<b>Table 5.4:</b> Reliability of constructs .....	87
<b>Table 5.5:</b> Intern items correlation matrix.....	88
<b>Table 5.6:</b> Summary of results of hypothesis testing using SEM .....	90



## LIST OF FIGURES:

	<u>Page</u>
<b>Figure 2.1:</b> Tourism System Model. ....	20
<b>Figure 2.2:</b> Overview of Tourism Industry. ....	19
<b>Figure 2.3:</b> Volume online sales (e-commerce and mobile e-commerce) in the United States and the world market. ....	22
<b>Figure 2.4:</b> Internet usage rate as a percentage of the total population. ....	23
<b>Figure 2.5:</b> Amazon share value in US dollars. ....	27
<b>Figure 2.6:</b> E-commerce market forecasting. ....	28
<b>Figure 2.7:</b> Top product categories for online purchases. ....	32
<b>Figure 2.8:</b> Tourism Contribution to the global economy. ....	35
<b>Figure 2.9:</b> Worldwide online travel sales volume 2010-2016. ....	36
<b>Figure 2.10:</b> Impact of Social Media on Travel Hospitality. ....	46
<b>Figure 2.11:</b> Global mobile payment market from 2015 to 2019 in billion U.S. dollars. ....	52
<b>Figure 2.12:</b> Worldwide smartphone's users from 2014 to 2020. ....	52
<b>Figure 2.13:</b> Online use. ....	54
<b>Figure 2.14:</b> Buy with GoogleWallet. ....	61
<b>Figure 2.15:</b> Payment by ApplePay for booking. ....	62
<b>Figure 2.16:</b> Technology Acceptance Model. ....	67
<b>Figure 2.17:</b> Information Adoption Model. ....	70
<b>Figure 3.1:</b> Proposed model for mobile travel applications. ....	75
<b>Figure 4.1:</b> The survey sharing via author social networks pages. ....	80
<b>Figure 4.2:</b> The survey sharing via author social networks pages. ....	80
<b>Figure 4.3:</b> Gender ratio. ....	81
<b>Figure 5.1:</b> Structural Equation Model. ....	89
<b>Figure 5.2:</b> Differences in opinion- Perceived ease of use. ....	91
<b>Figure 5.3:</b> Differences in opinion- Perceived trustworthiness. ....	91

**THE ACCEPTANCE OF MOBILE TRAVEL APPLICATIONS: A  
RESEARCH WITH THE INTEGRATION OF TECHNOLOGY  
ACCEPTANCE MODEL**

**ABSTRACT:**

This study named (**The Acceptance of Mobile Travel Applications: A research with the integration of Technology Acceptance Model**) deals with the evolution of **commerce** with **behaviors** of **mobile consumers in tourism**. The lifestyle of consumers leads to changes not only in terms of the consumption but also in terms of behavior and habit. It optimizes timetable by combining physical displacements and the use of different **technologies**, but also seeks moments of immobilize both physical and **virtual**. These examples illustrate the value of **mobility** to address the evolutions of consumer behavior to which researchers and **marketing** practitioners are now confronted.

The **applications** offered by Smartphone's are representative of the ubiquitous paradigm. They allow to interact **virtually** (almost) everywhere and all the time and can **influence** the physical behavior of the consumer. The **use** of the Smartphone during the tourist's stay can be on those **influences** in the physical spatial **behavior** of the **tourist**. Considering that fact, there are relationships between physical and virtual behavior of the consumer.

After identifying different uses of e-commerce in tourism and the impact of the mobile application, this study will examine the causes and **consequences of mobile uses**. Current work on the use of **mobile services** is still rare and has several limitations. This research is mainly based on the **technology acceptance model** and its derivatives. The researcher adapted a **descriptive analytical** approach which depends on data collection, analysis using **SPSS, Stata** and interpretation of the results to determine the hypothesized relationships, to show the **influences** of each **variables** to another, starting with the perceiving of ease of use the mobile services to perceiving trustworthiness, by the analysis the result of the relations, and how can affect the costumer behavior.

**Keywords:** *Technology Acceptance Model, Influence of Tourist Behavior, Marketing, Mobile Services, e-Commerce, Virtual.*

# MOBİL SEYAHAT UYGULAMALARININ KABULÜ: TEKNOLOJİ KABUL MODELİNİN ENTEGRASYONU İLE BİR ARAŞTIRMA

## ÖZET:

(Mobil Seyahat Uygulamalarının Kabul Edilirliği: Teknoloji Kabul Modelinin Entegrasyonu üzerine bir Araştırma) isimli bu çalışma, turizm alanında mobil kullanıcı davranışlarıyla ticaretin gelişimini ele almaktadır. Kullanıcıların yaşam tarzları sadece tüketim açısından değil, ayrıca davranış ve alışkanlıklar açısından da değişmektedir. Bu durum fiziksel yer değişimleri, farklı teknolojilerin kullanımı ile zaman çizelgesini optimize etmekle kalmayıp; fiziksel ve sanal açıdan durağan süreçleri de araştırmaktadır. Bu örnekler araştırmacılar ve pazarlama uygulayıcılarının karşılaştığı tüketici davranışlarındaki değişimleri vurgulayabilmek amacıyla mobilite kabiliyetinin önemini göstermektedir.

Akıllı telefonlar tarafından sunulan uygulamalar genel bilinen paradigmaların temsilcileridir. Bunlar (neredeyse) her zaman ve her yerde sanal bir etkileşime izin vermekte ve kullanıcıların fiziksel davranışları üzerinde etki sağlayabilmektedir. Turist ziyareti sürecinde akıllı telefon kullanımı sayesinde, turistin fiziksel ortamdaki davranışlarının üzerinde bu etkiler sağlanabilir. Bu gerçeği göze alarak kullanıcıların fiziksel ve sanal davranışları arasında bir bağlantı olduğu çıkarımında bulunulabilir.

Çalışmada e-ticaretin turizm üzerindeki etkileri ve mobil uygulamaların etkilerinin açıklanmasının ardından mobil kullanımların gerekçe ve sonuçları incelenecektir. Mobil servislerin kullanımı ile ilgili mevcut çalışmalar halen az sayıda olup; ayrıca bazı kısıtlara sahiptirler. Bu araştırma ağırlıklı olarak teknoloji kabul modeli ve türevleri üzerine kurulmuştur. Araştırmacı varsayımsal ilişkileri belirlemek amacıyla anket ile veri toplamış, analizleri SPSS ve Stata ile gerçekleştirmiştir. Sonuçların yorumlanmasında bağımlı tanımsal analitik yaklaşımı uyarlayarak, her değişkenin bir diğeri üzerindeki etkisi gösterilmek suretiyle, ilişkilerin sonuçları ve kullanıcı davranışları üzerindeki etkisinin analiz edilmesi ile güvenilirliğin algılanması aracılığıyla mobil servislerin kullanım kolaylığının anlaşılmasına çalışılmıştır.

**Anahtar Kelimeler:** *Teknoloji Kabul Modelinin, Turist Davranışlarının Etkisi, Pazarlama, Mobil servisler, e- Ticaret, Sanal.*

## **1. INTRODUCTION:**

### **1.1. Introduction**

Depending on UNWTO (2016) annual report tourism has experienced continued growth and deepening diversification to become one of the fastest growing economic sectors in the world (United Nations World Tourism Organization, 2016). In the sense that the development of the tourism sector and its enormous impact on world growth is mainly due to advances in communications and particularly to the liberalization of the airline market. Indeed, the latter was, although not sufficient on its own, the necessary condition for the development of tourism.

“Tourism, a sector accounting for 10% of world GDP, 7% of global trade and one in 10 jobs”. The sector now supports more than 300 million people in employment (World Tourism Organization, 2016).

The new information and communications technology have led to major changes in the consumer society. Internet and Social Networks are now anchored in the consumer habits, which are increasingly addicted to this technology.

Tourism is one of the sectors that have been the most heavily impacted by the evolution of tools, uses and digital contents. We now distinguish e-tourism (tourism and web), m-tourism (mobile tourism via Smartphone's or tablets) and social tourism (the use of social networks for tourism).

The internet usage is growing rapidly from day to day and as per the International Telecommunication Union (2016) forecast that 3.5 billion of people, however internet is the perfect tool to promote and open up new opportunities for travel and tourism industry sector through e-commerce. Tourism is also a sector where information and communication technologies (ICTs) play a key role. Numerical uses are multiplying and creating new practices, new needs and new modes of consumption. However, it has some limitations as some information may not be correct, outdated, portrayed and we have seen several online fraud case too (Chaffey et al., 2006).

According to popular e-commerce market data 40 percent of worldwide internet users have bought products or goods online through desktop, mobile, tablet or other online devices, representing more than 1 billion online buyers and is expected to grow continuously. E-commerce statistics confirm the explosive pace at which this industry has developed as worldwide B2C e-commerce sales amounted to more than 1.2 trillion US dollars in 2013 (Statistics and Market Data about E-commerce, 2013). Like all other industries, the tourism industry has become globalized. The changes are permanent, competition increasingly enhanced and the emergence of developing countries does not stabilize the situation.

This observation has led to consider the role of ICT in changes of consumer behavior and more specifically with Smartphone. Indeed, the ubiquity offered by the Smartphone contributes to the liberalization of space. This ubiquity allows consumers to interact virtually even when they are physically moving. Moreover, this technology has spread very quickly and many consumers are already equipped with it. The mobile phone has undergone numerous innovations over a very short period of time, offering many services, wider screens, continuous internet access and precise knowledge of its geographical position, Smartphone offer thousands of applications that provide access to information, social networking, and navigation services.

The Smartphone occupies a unique position as it offers the possibility of interacting before, during and after the tourism experience. Recent studies show that Smartphone and their applications have the potential to help travelers by providing them with easy access to information at any time and almost anywhere (Rasinger, Fuchs, Hopken, 2007). We were especially interested in the time of the stay, because access to information can be less easy by Smartphone is the most able to affect the physical behavior of the consumer, especially in his discovery of the destination, show that the activities of travelers can be modified by the use of Smartphone.

The thesis include two large parts, the first one is devoted to the evolution of tourism, explaining conceptual perspectives, based on the literature, with a framework introducing the uses of e-commerce on tourism sector and how mobile applications promote tourism destinations, it concern the impact of provider with customer (B2C), the section includes also actors and structure of tourism , in a second and third section include the advent of e-commerce and electronic tourism as a new engine of the digital economy in the 21th century. First by given a definition, demonstrating their importance in terms of world transactions and how both of costumers and providers get benefits from this system. As the fourth section, introduce the mobile tourism, this section is dedicate to reveal the real contribution of ICT in tourism sector from a global vision to more detail related with mobile applications, and B2C platform.

After defining the concepts, the second part followed up by defining TAM (technology acceptance model) and IAM (information adoption model), the need for a survey to better understand the (influence of mobile travel applications) buying journey for user on commercial website and try to study each step on the purchase path for a tourism product. Recent studies on this topic of e-commerce in travel and tourism or “e-tourism” sector demonstrated the relation that have the user of e-commerce and the influence of mobile applications on its purchase procedure, proceeding with a survey to show the behavior of a user with a Mobile platforms, thus a questionnaire to have a good correlation of all its information a user can have and what kind of influence he get.

## **1.2. Problem Statement**

How mobile applications have been able to promote, tourism products and services as a simple ordinary purchase. For Rodriguez et al., (2007), "the behavior of tourists depends largely on the quantity and quality of the information available to them. The lack or the overabundance of information can be a factor of disorientation and have the consequence of causing the tourists to go to the most frequented destination ".

Confronted with this reality of unbalanced distribution of tourist flows, the institutional organizations of tourism (Hotels, travel agencies, airline companies...) have a spatial problem to solve. How to extend the tourist activity on a larger part? How to homogenize tourism flows to ensure fairer tourism and economic development? And how to help along the process, from the information to making reservation?

In the case where the unbalanced distribution of flows is caused by low distribution of information to visitors, it will be interesting to see how mobile technologies, through their personalization, can be a solution. On the one hand, by sharing information, as close to visitors as possible, and on the other hand by personalizing the recommendations delivered, the mobile potentially has the capacity to ensure a better distribution of flows while offering a better experience to tourists.

Indeed, current mobile technologies, by their capacity of personalization, are potentially able to contextualize their recommendations and thus provide users with an individualized tourism experience, thus affecting their spatial behavior.

### **1.3. Hypothesis**

The primary objective of this research is to study the impact of mobile travel applications on travel planning process. With the use of TAM (technology acceptance model) and IAM (information adoption model) to elaborate a conceptual model for testing hypothesis. The followed hypothesis was tested in a previous master thesis namely “Impact of Social Travel Network on Travel Planning” (Bashar, 2014). In this topic the hypothesis will be evaluated depending on Mobile Travel Applications.

**H1:** Perceived ease of use of MTA positively influences the perceived usefulness MTA for travel planning.

**H2:** Perceived ease of use of MTA positively influences the behavioral intention to use information from MTA.

**H3:** Perceived usefulness of MTA positively influences the behavioral intention to use information from MTA for travel planning.

**H4:** Perceived trustworthiness of MTA positively influences the perceived usefulness of MTA for travel planning.

**H5:** Perceived trustworthiness of MTA positively influences the behavioral intention to use information from MTA for travel planning.

#### **1.4. The Research Variables**

The variables are as follow:

Perceived usefulness (PU) Davis, (1989).

Perceived ease of use (PEOU) Davis, (1989).

Perceived trustworthiness (PT) Ohanian, (1990)

Behavioral intention to use information (BITUI) Chua, Hu, and Venkatesh, and Davis (1996).

#### **1.5. Research Aim & Objectives**

Theoretically and conceptually, the aim of this study is to explore a field that has not yet been studied in marketing. Our work therefore aims to identify the uses of mobile services that can influence the behavior of the tourist. Relying on research that deals with mobility as a tool for analyzing behavior. This work will enable to define a conceptual framework, the mobility of the consumer, which will enable to analyze the relations between the behavior of tourists and the use of mobile applications.

This research will also allow to enrich the literature on the theory of diffusion of uses (Shih and Venkatesh, 2004), which is still underdeveloped. In particular, to emphasize the value of studying the use of technology from a global perspective. The use thus translates a behavior resulting from a solution imagined by the user to respond to a problem in a hybrid space, a tourist wishing to find a restaurant nearby will use his phone to prepare for future physical behavior.

This study has as objective to demonstrate the connection between the ICT (Information & Communication Technologies) with business specially tourism sector. The objectives are as follows:



- To analyze the impact of e-commerce in tourism industry, and the rapid growth of technologies, by using TAM (Technology Acceptance Model) that let to understand how technology it's perceived by costumers.
- To understand how travelers use mobile applications to discover a destination, the conceptual framework of consumer behavior on the mobility in tourism field and in particular the role of the Smartphone for planning, discovering and sharing a trip.
- To indicate the usefulness, in particular on the tourist experience for planning a trip. The Smartphone occupies a special position since it offers the possibility of interacting before, during and after a touristic experience.

### **1.6. Approach and Methodology**

In order to test the hypothesis and confront them with reality, resort to a survey-questionnaire was fundamental. The choice of the questionnaire was motivated by the very purpose of the research which aims to understand a relatively new phenomenon, how the tourists / travelers use their Smartphone's to meet the needs in an experiment touristic. In this sense, it seemed that survey was the perfect observation mode to the research envisaged in so far as it reveals not the causes but the mechanisms, this study is deducting from theory such as TAM (technology acceptance model) already exist in literature, but its application in tourism is limited. To obtain a good overview of the impact of Mobile Travel Application on travel planning, conducting a survey with a sample of travelers using Smartphone's (MTA).

The data are then analyzed by using SPSS (Statistical Package for the Social Sciences) and Stata (statistical software) with SEM (Structural Equation Modeling).

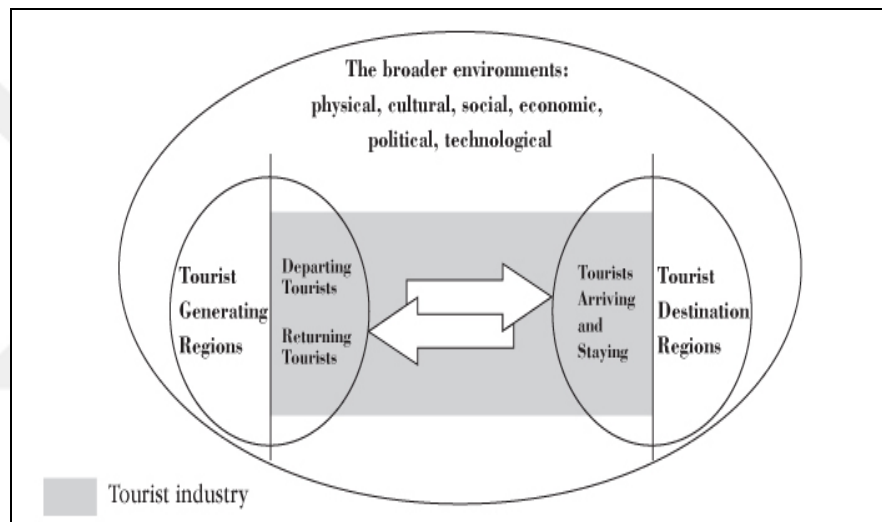
An oline survey was created in English to reach the maximum of research sample, according to Slem and Jankowski (2006) oline questionnaires are useful on the research related to internet use topic's One advantage of online survey research is that it takes advantage of the ability of the Internet to provide access to groups and individuals who would be difficult, if not impossible, to reach through other channels (Garton, Haythornthwaite, & Wellman, 1999).

## 2. LITERATURE REVIEW:

### 2.1. Tourism In Brief:

“Activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited.”(United Nations World Tourism Organization, 2014).

“The temporary movement of people to destinations outside their normal places of work and residence, the activities undertaken during their stay in those destinations, and the facilities created to cater to their needs.” (Mathieson and Wall, 1982).



**Figure 2.1:** Tourism System Model.

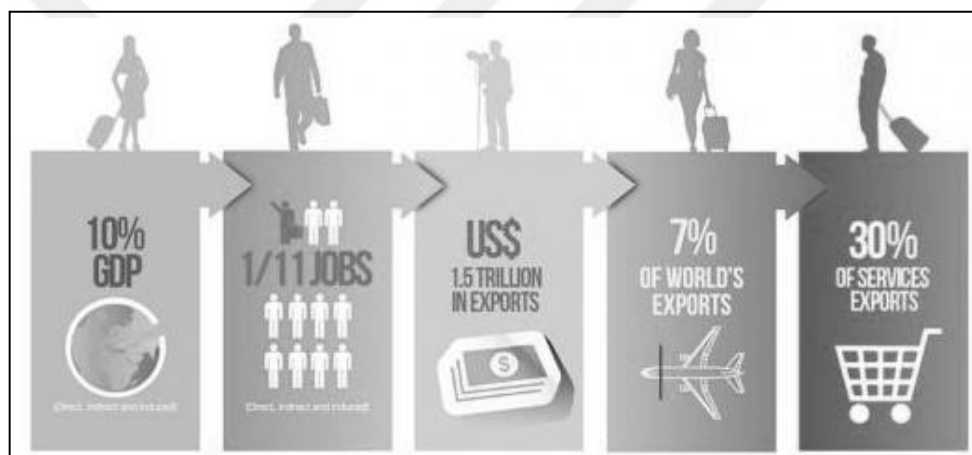
**Source:** Leiper, (1979). The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry. *Annals of tourism research*, 6(4), 390-407.

As showed in the Figure 2.1 Leiper considers the phenomenon tourism as a system, which is functioning under various environments. E.g. Human, Socio, Cultural, Economical, Technological, Physical Political & Legal Environment (Leiper, 1979 – updated, 1990).

## Tourism Industry Today:

According to the World Tourism Organization, with more than one billion customers and more than 260 million jobs worldwide, the tourism industry is a leader in service activities around the world. It accounts for more than one third of total world trade in services and is one of the fastest growing sectors in the world economy (4% annual growth), (United Nations World Tourism Organization, 2016).

Depending on UNWTO, “tourism has become one of the major players in international trade and is at the same time one of the main sources of income for many developing countries”, the volume of tourism is slightly more than oil exportation, automobiles or foods production.



**Figure 2.2:** Overview of Tourism Industry.

**Source:** World Tourism Organization, Overview of Tourism industry (2016).  
14/11/2016

### Current developments and forecasts:

- 5 % in 2016 the growth of tourist arrivals
- In 2016, US\$ 1.5 trillion in export incomes
- By 2030, UNWTO forecasts international tourist arrivals to reach 1.8 billion (UNWTO Tourism Towards 2030.)

**Table 2.1:** Global tourism Overview.

Total Contribution of travel & tourism to global economy	\$ 7.17tr
Number of International tourist arrivals worldwide	1,186 m
Number of European tourist arrivals	607,6 m
<b>International Tourist Expenditure</b>	<b>Values</b>
Global international tourism revenue	\$ 1.26 bn
International tourism expenditure of the United States	\$ 112.9 bn
China's market share of tourism expenditure	23,20%
<b>Lodging and Accommodation</b>	<b>Values</b>
Global hotel industry total retail value	\$ 427.69 bn
Average price of a hotel room in Europe	\$ 185
Average price of a hotel room in North America	\$ 119
Daily hotel rate in New York	\$ 309.86
<b>Online Travel Market</b>	<b>Values</b>
Percentage of travel bookings made from the U.S.	39%
Online travel bookings revenue worldwide	\$ 498 bn
Online travel agencies' share of total hotel industry revenue in the U.S.	8,40%

**Source:** Facts on the global tourism industry, (Statista, 2015). 14/11/2016

## **2.2. Concept of Electronic Commerce (E-Commerce):**

The development of electronic commerce based on the development and evolution of Internet. The internet has rightly been described as the highway that managed to erase the borders between countries and societies has changed the structure of human society and entrepreneurship. Nowadays, millions of users can access and use internet for various purposes. Examples of use searching information, communication, entertainment, education and for purchases goods and/or services. With millions of active users looking for various products, information and services, there is a huge opportunity for businesses to use e-commerce to expand their business and their consolidation in the market. For this purpose the need to apply for e-commerce solutions and to study the characteristics of electronic markets.

### **2.2.1. E-Commerce definition:**

According to Kalakota & Whinston (1997) e-commerce can be defined as "the purchase and sale of products or services or the distribution of information about products through computer networks." The term computer networks primarily refers to Internet connections. As e-commerce is defined as "the use of the internet to facilitate, execution, and management of business transactions. The business transactions involve a buyer and a seller to exchange goods or services in exchange for benefits "(Delone & Mclean, 2014).

Regarding (Molla & Licker, 2001), E-commerce is defined as the conduct of one or more key business functions within an organization or externally with suppliers, intermediaries, consumers, governments or other members of the business environment by implementing solutions based on the Internet and on computer networks. Electronic commerce includes a wide range of activities that take place using electronic means in order to support the buying and selling products and services. It includes any transaction form in which the parties interact electronically rather than by physical means or direct physical contact, to always purchase of goods or services, includes activities on:

1. Presentation of goods and services to consumers.
2. Application procedures for buying and selling products and their support is delivered online.
3. Provision of electronic services, such as customer service before and after the purchase of products. (Totonchi & Manshady ,2012).

### **2.2.2. Business application of e-commerce:**

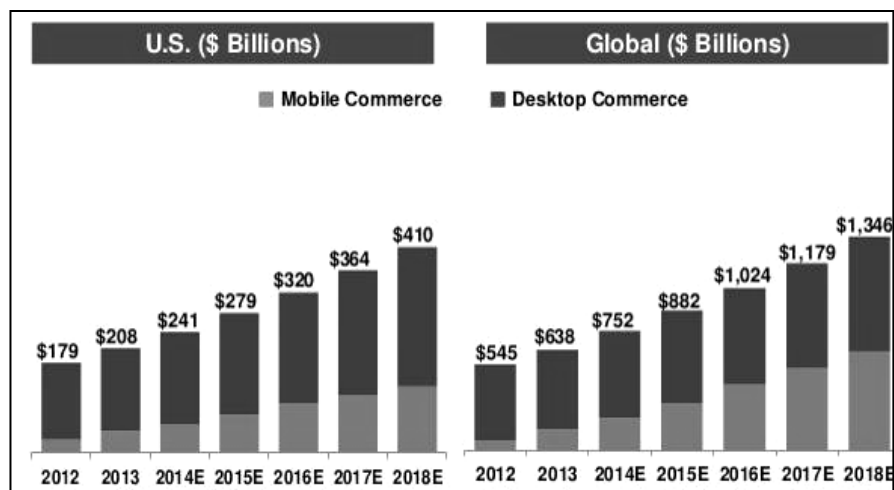
The electronic business of an organization is not limited to trade support operations but includes operations in three principal business segments (Lallana et al., 2000):

Production: includes activities for the realization of the necessary supplies, the raw materials ordering and replenishment of stocks. They also include activities such as payment processing, electronic linkage with suppliers and activities related to the production control procedures.

Customers: include promotional activities for products or services via Internet, e-marketing, sales processing online, customer claims management and electronic customer service of a modern enterprise systems internal.

Organization: Use information technology to information management and payment of staff, employee training, internal information exchange, conducting teleconferences and support personnel recruitment procedures. Completing argued that electronic applications improve the flow of information between production and sales departments. Also facilitate communication between working groups of different departments within the organization. Information can now be readily available to all participants within the organization.

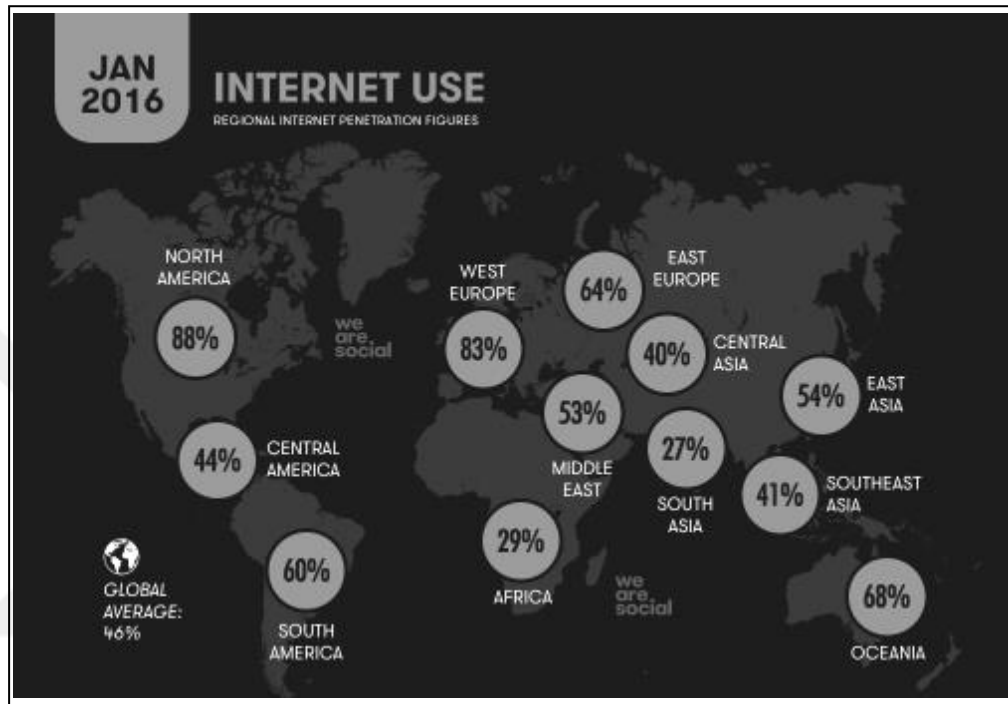
Electronic commerce is a subset of e-business. Electronic commerce is defined using the notion of trade, while the electronic business extends beyond trade and includes additional business activities (Graaf & Muurling, 2003). The e-commerce market share, compared to the traditional trade is constantly increasing. The part of sales growth in e-commerce through an increase approaching twenty percent (20%) in the last five years. For 2014 estimated that internet sales were around USD 750 trillion, as shown in Figure 2.3 below:



**Figure 2.3:** Volume online sales (e-commerce and mobile e-commerce) in the United States and the world market.

**Source:** GoldManSachs, Volume online sales (e-commerce and mobile e-commerce) in the United States and the world market, (2014). 14/11/2016

From the statistical forecasts (Goldman Sachs 2014) there is an increasing trend of using mobile phones for use of e-commerce worldwide. A key factor affecting the number of sales made through the Internet, the number of active users on the internet. As shown in North America and Western Europe diagram below are the areas of the world with the highest number of active users on the internet, as a percentage of the total population in 2016:



**Figure 2.4:** Internet usage rate as a percentage of the total population.

**Source:** WeareSocial. Internet usage rate as a percentage of the total (Jan 2016). population. 07/09/2016

### 2.2.3. Advantages and limits of application of electronic commerce:

The advantages and limits of implementing e-commerce solutions in a business are manifold and affect positively both the operator and customers, resuming the article of Franco, (2016) the advantages are as follows:

a) Advantages of application of E-commerce :

For Entrepreneurs and companies:

- It opens a new distribution channel, a complementary circuit for certain products and services of the company.

- It allows to cover new markets whose reach would be considered too expensive by the traditional means of marketing.
- It brings more conviviality compared to the normal sale and to the traditional ordering control through multimedia which regroup the sound, the image, the color, the text and the animation.
- It promotes interactivity by developing a personal relationship with the consumer or the customer, facilitating one-to-one and tailor-made sales.
- It allows to envisage policies of loyalty of the customer through a offer of services and high added value.
- It facilitates transactions by avoiding the buyer to move (thus saving him time) while offering him an identical and comfortable service.
- It provides the opportunity to reduce public product prices by eliminating the margin usually left to intermediaries, such as some structural costs.
- The recording of data via internet is almost automatic and requires little effort. It allow a company or individual to reach the global market. It meets the requirements of domestic and international market, time restrictions are non-existent while conducting transactions, e-commerce allows to execute business transactions, 24 hours 7/7.

For Customers:

- To compare for the best price.
- No pressure from sellers.
- A global market.
- Time saving.
- An updated offer (finding the latest models).

b) Limits of application of E-commerce:

For sellers and companies:

- Some customers are reluctant to purchase online. An e-commerce site may therefore not meet the expected expectations if the target of the company falls into one of these categories.



- The lack of confidence in the means of payment and the fear of the scam, damage the e-commerce sites.
- Cannibalization risk between the virtual channel and the physical channel.

Buying online is not without risk but the consumer is not the only one to endure the limits of distance selling. First, the expansion of online services with a wide variety of products has resulted in increased competition. This added to the disadvantages seen previously, e-commerce companies are pushed to break prices. Secondly, the dematerialization of human contact is also problematic for the seller, particularly when selling from one individual to another. Indeed it happens that the payment is never made. The sale can only be made by mutual trust. In the event of non-satisfaction by the customer, and if the terms of the after-sales service are not correctly explained and applied, the seller incurs legal action and penalties. Repeatedly, the survival of the company is at stake.

For Customers:

- This kind of sites record all the actions of the internet users, which makes it possible to follow the habits of consumption of the customers.
- The lack of human relationships in transactions can be missed to customers.
- The possibility of falling on a malicious site is conceivable.
- No contact with the product (and especially with regard to the middle of the garment) can be a brake on purchase.
- The difficulty of calling the after-sales service in case of problem.
- The delivery times, as well as the associated traifs can sometimes be relatively consistent.

The main disadvantage that can be the cause of those who do not buy online, concerns the dematerialization of the product at the time of purchase. The customer only has a photograph and product characteristics to get an idea. It may also rely on the comments of other purchasers in the headings provided for this purpose, provided that they have not been filtered beforehand, which remains unverifiable by the consumer. Clearly, the fact that one can only realize the product after its receipt after purchase can be binding.

#### **2.2.4. E-commerce forms:**

Depending (Ajjet Khurana, in Understanding Different Types of E-commerce Businesses) e-commerce is divided into four main categories: business to business or B2B (Business to Business), B2C (business-to-consumer), C2B (Consumer to Business Ecommerce) and C2C (consumer-to-consumer).

##### **a) Business to business e-commerce:**

Business to Business (B2B) refers to the electronic commerce of a business to other companies. They are exchanges between two traders or between a supplier and a company, for example. The revenues of a B2B come from the sale of goods or services to companies. An example of business to business e-commerce could be a manufacturer of gadgets sourcing components online.

##### **b) Business to consumer e-commerce :**

Business to consumer refers to the traditional e-commerce of a business towards consumers, that is the sale of goods or services to individual customers from a website. Private sale sites are a sub-category of (B2C) . The principle is to offer large discounts on products for a limited period of time. In general, users must have registered as a member in advance to view the offers.

##### **c) Consumer to business e-commerce :**

C2B, or the consumer to e-commerce company, is another type. This is a consumer announcement an online project with a budget set in mind. The companies then proceed to examine the project and offer on it. There are some popular online sites where much of this type of e-commerce is done. These sites allow these consumers to find people for their jobs and vice versa. They provide a viable platform and a meeting place for consumers and businesses.

##### **d) Consumer to consumer e-commerce :**

Consumer to Consumer (C2C) exchange platforms, the internet equivalent of classified ads. The web site is limited to offering the interface and the system of exchanges of goods.

e) The bubble dot.com:

The dot.com bubble began in 1995 with the introduction of the internet on human life and the use of internet technologies perspectives on business transactions. The overestimation of profits that could derive new businesses active in e-commerce, resulted in the explosion of the respective companies share price.

The highlight of this explosion held on March 10, 2000, when the Nasdag index in the United States reached 5132.52 points (Google Finance, 2016). The collapse of the bubble occurred in 2000-2001. Some companies declared bankrupt immediately, others still lost substantial market share in one day, some remained profitable, with significant reduction but its share price, for example the Cisco, whose shares fell by 86%.

Along the way, a few companies have managed to recover and overcome the crisis that had broken out eg the Amazon.com, whose share fell from \$ 107 to \$ 7 dollars per share, and a decade later managed to exceed \$ 600 per share (Yahoo Finance, 2016).



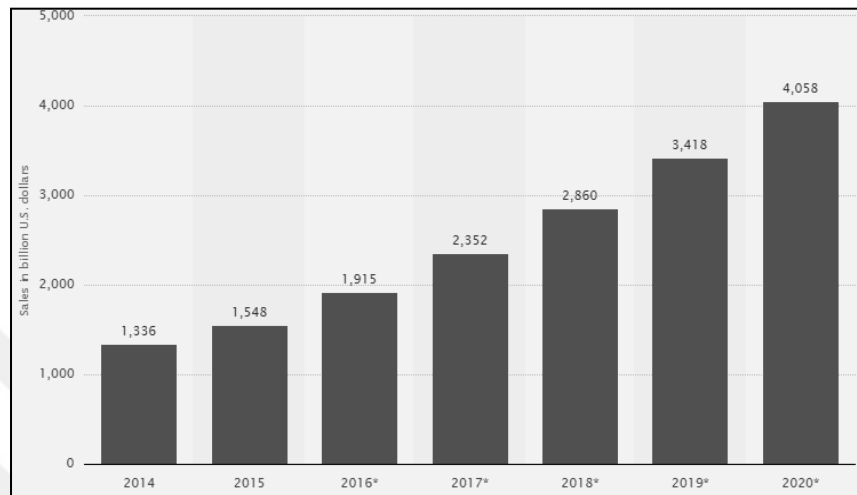
**Figure 2.5:** Amazon share value in US dollars.

**Source:** Yahoo Finance. Amazon share value in US dollars , (2016). 17/09/2016

### 2.2.5. Impact on markets and retails:

#### a) Market size:

The E-commerce market represent more than US \$1.6T in 2016, with a projection to grow over 20% in 2017.



**Figure 2.6:** E-commerce market forecasting.

**Source:** E-commerce market forecasting, (Satatista , 2016). 17/09/2016

#### b) E-Business models:

E-business models can capitalize on digital data collection and distribution techniques without using the internet ( Strauss & Raymond ,2016). A company has three options for activation or not in the area of electronic commerce. Based on its activation in the area of electronic commerce and the provision or non-customer natural stores there were the following business action models (Doong et al., 2011):

Electronic and traditional commerce combination : combine e-commerce activities with physical stores in the market, trying to exploit the advantages of each. Online stores beyond immediate sales target, target the best customer service and enhance the shopping for physical stores signal. In turn the physical stores, remind the customer being relevant esite to their convenience. Example respective organization is to MarksandSpencer clothing chain.

Traditional organizations : are businesses that do not have any e-commerce activity, featuring exclusively physical stores to attract customers and sell products to customers. relevant organization example is the local supermarket.

Virtual Organisations : type of commerce who not have shops in the market and sell their products exclusively online. Example respective organization is the Amazon website, which has no physical distribution outlets for its products, despite have only storage product concentration and visibility, distribution and sale of products made through internet. The main advantage of virtual organizations is the reduced operating costs, but it is more difficult to hit a virtual organization in relation with other business models, because of the huge number of virtual organizations on the internet.

c) E-commerce profitability:

Most companies have turned to e-commerce and web development as a way to gain more profits from the market. But in order for a company to achieve significant revenue from the commercial activation of internet major effort is required and continuous evolution of services offered. If a company operates in the field of electronic commerce, just following the latest fashion trends, it should not expect significant benefits from its activities, this transformation also results in new business models that add customer value and /or increase company profitability such as the highly successful Graiclist, Facebook, Twitter and Google (Strauss & Raymond, 2016). In addition to the direct revenue it can generate an online store, the development of a commercial site facilitates sales to existing physical stores an organization. Facilitates easy information to existing customers, better communication with the organization's customers, providing better service to them and create an electronic database with the data of its customers, that can enhance the effectiveness of the promotion of technical products and / or services already in place.

d) Sources of income:

Many companies active in the field of electronic commerce have income from multiple sources, such as advertising, a subscription fee or offer for sale of the site area to display promotional messages from others. The main business revenue generation models are described below. Since it is possible for multiple parallel sources of revenue, many companies do not use a single business revenue model, but apply hybrid models combining eg advertising and / or sales of products as sources of revenue. Five key sources of revenue for a company in the e-commerce space is (Rappa, 2000):

Advertising: Any person viewing advertisements on a website can pay site either on the number of times an ad was either based on the number of ad clicks than site visitors. To be able to generate significant revenues ads will either be a large number of visitors to the site or to provide that specific information material. The ads (advertisements) are one of the main sources of income for Google.

Finally subscription (subscription): Membership and registration by paying a subscription fee is an important source for a site revenue. Relevant sites usually offer some features free, but charge a fee for access to additional available services. Example site with significant revenue source the subscription fee is the online edition of newspaper Financial Times ([www.ft.com](http://www.ft.com)) in the United States

Sales of products (merchandise): Refers to direct supply and sale of products by the producer - manufacturer to the final consumer product. Sales may be made either on the basis of list prices or through electronic auctions.

Ombudsman (brokerage): They bring buyers and sellers together and facilitate transactions between them. Mediators can be found in all forms of electronic commerce (B2B, B2C and C2C). Usually the broker charges a fee or commission for each transaction that takes place with the use of e-commerce services which he offers to the seller. The best-known ombudsman site is eBay.

Promote other business products (affiliate programs): based on the principle of payment of a fee to the partner based on sales generated from the site. The merchants advertise and sell products and services through links that are hosted on web sites of partners.

The partner only paid for sales made and not on the relevant links display number on his website. Commissions are only paid for really - measurable revenue. This model generates revenue for the merchant products, but also for their partners receive a commission for sales generated from links displayed on their website. The corresponding business model is considered very popular in the online space (eg: the [www.amazon.com](http://www.amazon.com) operates as a merchant products and cooperates with other sites to display its products in those).

Grants (donations): there are websites that offer valuable services to their members free. Corresponding sites can provide income that will allow them to continue their activity on the internet through donations from site's members or third parties. Example respective websites are free Internet radio or television channels (eg: [www.wcpe.org](http://www.wcpe.org)).

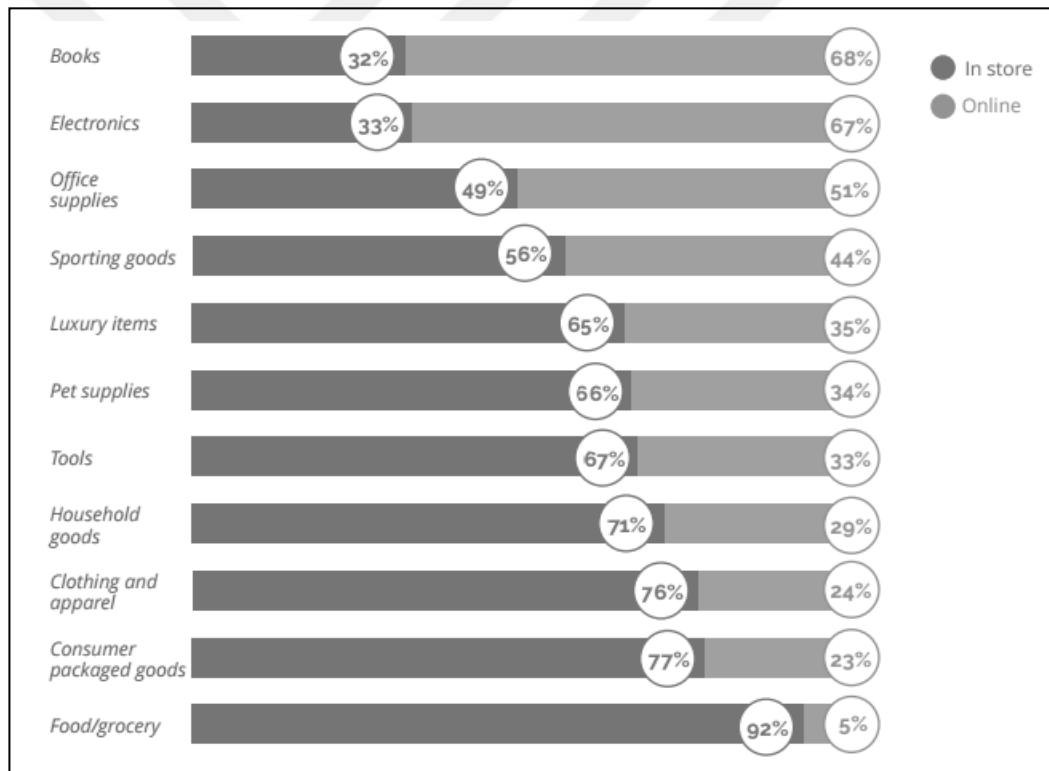
e) Suitable products and services for e-commerce business:

A category of products may be more or less suitable for online sales, and also for certain products using electronic commerce is not suitable for sale. The types of products and services that achieve better sales on the internet are the ones who benefit from market convenience of the internet. Convenience is the main reason why consumers resort to the internet for buying and selling products. Customers can shop any time of the day from any location, to avoid the crowding in stores and insistent vendors during the process of buying and selling products. Unusual products and services often attract the attention of online consumers are often sold in large quantities. In the sales effort generally products that can be easily obtained by consumers from their neighborhood store, difficult to attract Internet users, unless they are offered at very competitive prices. For example a few toothpastes sold online. The same applies to the purchase of everyday food and drink. Conversely, rare cheeses, rare cigars, old alcoholic beverages, and even diamonds can be sold more easily on the internet. On internet, trust is a critical factor for sales. The customer can see the products only through the computer screen. To decide the purchase required the existence of trust on the seller.

People already know the reputation of the company that manufactures the products have already tried the products, and believe that if you go to buy a brand product will receive what you expect.

Most products sold by catalog and mail, can also be sold easily in online shops. Generally suitable products that can be transported easily and with low shipping costs, bulky and heavy products entailing high costs shipping and handling costs, limiting their ability to offer low competitive price through internet environment.

The Internet is mainly used for communication, entertainment, education and research. Therefore, intensive information about products such as computers and software, books, travel, consumer electronics, magazine subscriptions, are the most popular products for sale on the Internet, as opposed to products whose market requires testing or touch product (Mavri, 2009). The most common types of market products via the Internet to the United States in the year 2016 (among the users who have made at least one purchase online in 2016) were electronic products (67%), books (68%) according to research company Walker Sands consultants (2016):



**Figure 2.7:** Top product categories for online purchases.

**Source:** Walker Sands the future of retail. Top product categories for online purchases, (2016). 22/10/2016



### **2.3. Electronic Commerce and Tourism:**

The information and communication technologies (ICT) and tourism are two of the most important sectors of the global economy. Expanding economic opportunity particularly through core business and hybrid mechanisms, in addition to strategic sustained and targeting can benefit to the tourism companies, ranging from enhancing the customer experience to decreasing costs and improving access to finance (Ashley et al, 2007).

#### **2.3.1 Electronic tourism:**

The tourism sector involves providing services to people traveling to and staying in areas outside their usual environment for less than a year, either for leisure or business. Among services including tourism is services such as transport, accommodation, restaurants, cultural and leisure activities (Mavri & Angelis, 2009). During the era, before the development of e-commerce, the role of the travel agent was to advise their clients about available destinations and act as a middleman in the complex process of travel bookings. Until the early 1990s, consumers had to make reservations, for example, for cruises and other travel services through travel agents, as many companies do not even offered direct booking. Two were the important events in the application of information technologies in the tourism sector, which led to significant changes in the global tourism industry. The first of these was the development of direct air ticket reservation systems, such as the American Airlines SABRE system. The second was the possibility of providing all the entrepreneurs working in tourism sector to use online direct communication channels with customers (Mamaghani, 2009).

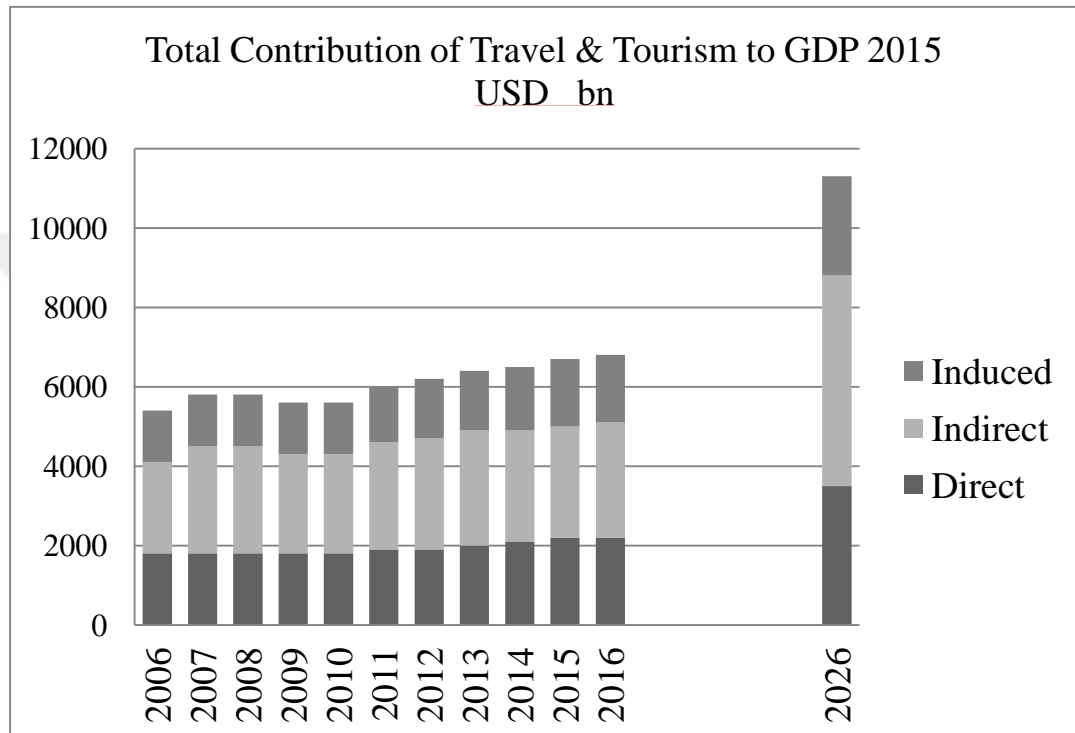
According to Jolly & Dimanche (2009), tourism is an ideal industry for implementing e-commerce solutions and marketing tourism services online. E-commerce has completely changed the tourism value chain (Law et al., 2009). For tourism businesses, the internet offers the opportunity for easy availability of information to a large number of customers with relatively low cost and book online, it also provides a tool for communication between tourism services suppliers, intermediaries and final consumers (Kim, 2004).

The term e-tourism (e-tourism) refers to "the digitization of most processes of the value chain in tourism, travel arrangements, provide hospitality and catering services" (Buhalis & Deimezi, 2004). The e-tourism "refers to search and disseminating information to tourists, as well as management, sales and marketing of tourism services by internet support "(Jolly & Dimanche, 2009).

Tourism is a sector-based information and the information available, are those affecting the decisions of travelers. for example, customers plan their trips and the web support can buy way tickets (air, rail, etc.), to book rooms in hotels for their stay, rent a car to travel destination to buy tickets visit museums and learn (eg attractions, shops hours, available events, catering prices, subway routes etc.) generally for the purpose of their trip. These are all areas of e-tourism (Parsaei et al., 2014). The e-tourism is directly related to the use of the internet to sell tourism products to customers. Comparing e-tourism with the e-banking, where the e-banking using internet banking services via internet, also the e-tourism is a form of electronic commerce in which users can have access to tourist services be purchased directly via online transactions.

### 2.3.2. Market size:

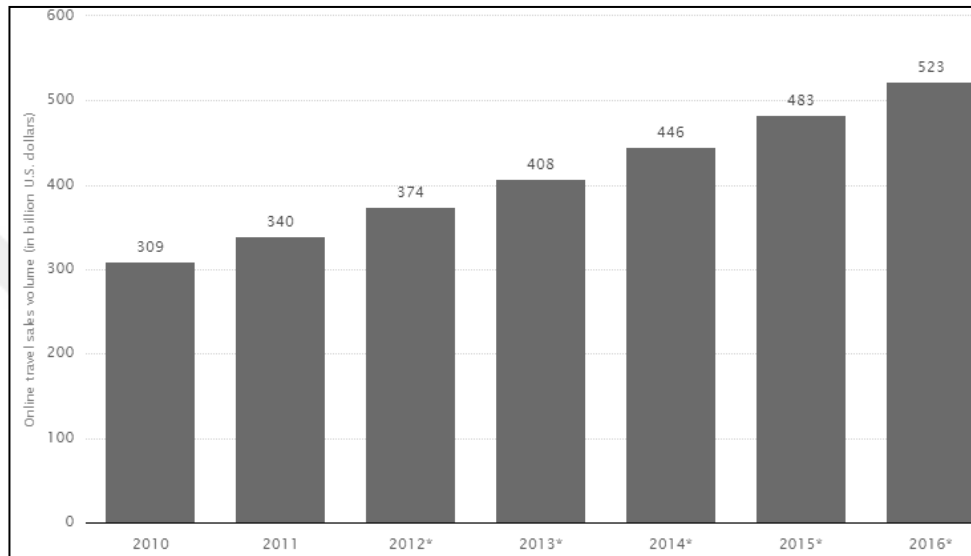
The direct contribution of Travel & Tourism to GDP was USD 2,229.8bn (3.0% of total GDP) in 2015, and is forecast to rise by 3.3% in 2016, and to rise by 4.2%, from 2016-2026, to USD 3,469.1bn (3.4% of total GDP) in 2026. The diagram below shows the financial contribution (direct and total) of the tourism industry in the global economy:



**Figure 2.8:** Tourism Contribution to the global economy.

**Source:** Travel & Tourism Economic impact. Tourism Contribution to the global economy,(2016). 12/08/2016

According to a survey of Statistic brain (2013), people making reservation through internet represent more than 148.3 million, tour bookings and other related tourist activities. This number corresponds to a number greater than 57% of all travel bookings in 2013 on tourist services online. The size of online travel sales has picked up in recent years. As shown in Figure 2.9. below, the total sales volume for online travel services is expected to reach \$ 523 billion in 2016.



**Figure 2.9:** Worldwide online travel sales volume 2010-2016.

**Source:** Statista . Worldwide online travel sales volume 2010-2016, (2016).  
10/05/2016

Table 2.2. below shows the percentage of online tourism services trade for the countries surveyed.

	2014	2015	2016	2017	2018	2019
<b>Digital travel sales (billions)</b>						
North America	\$160,31	\$179,02	\$192,36	\$202,13	\$211,41	\$220,06
Western Europe	\$140,45	\$151,73	\$161,97	\$171,07	\$178,76	\$185,52
Asia-Pacific	\$116,11	\$193,12	\$163,85	\$189,69	\$214,87	\$242,57
Latin America	\$24,92	\$29,97	\$36,26	\$42,44	\$48,31	\$55,26
Middle East & Africa	\$20,33	\$23,97	\$28,12	\$32,87	\$38,33	\$44,63
Central & Eastern Europe	\$8,85	\$9,71	\$10,62	\$11,66	\$13,10	\$14,30
Worldwide	\$470,97	\$533,52	\$593,18	\$649,85	\$704,77	\$762,34
<b>Digital travel sales growth (% change)</b>						
Latin America	31,90%	20,30%	21,00%	17,00%	13,80%	14,40%
Asia-Pacific	22,80%	19,80%	17,80%	15,80%	1,30%	12,90%
Middle East & Africa	18,00%	17,90%	17,30%	16,90%	16,60%	16,40%
North America	9,80%	11,70%	7,40%	5,10%	4,60%	4,10%
Central & Eastern Europe	16,90%	9,70%	9,40%	9,80%	12,40%	9,10%
Western Europe	9,40%	8,00%	6,70%	5,60%	4,50%	3,80%
Worldwide	14,10%	13,30%	11,20%	9,60%	8,50%	8,20%
<b>Digital travel sales share (% of total)</b>						
North America	34,00%	33,60%	32,40%	31,10%	30,00%	28,90%
Western Europe	29,80%	28,40%	27,30%	26,30%	25,40%	24,30%
Asia-Pacific	24,70%	26,10%	27,60%	29,20%	30,50%	31,80%
Latin America	5,30%	5,60%	6,10%	6,50%	6,90%	7,20%
Middle East & Africa	4,30%	4,50%	4,70%	5,10%	5,40%	5,90%
Central & Eastern Europe	1,90%	1,80%	1,80%	1,80%	1,90%	1,90%

**Table 2.2:** Digital travel sales by region.

**Source:** eMarketer. Digital travel sales by region,(2015). 10/05/2016

The use of e-commerce services for market travel expenses represents about one-third of the total volume of e-commerce transactions worldwide digital travel sales exceed \$ 533 billion by 2015, An increase of 13.3% compared to 2014. Sales will rise steadily through 2019 , worldwide digital travel sales will top \$762 billion.

### **2.3.3. Advantages of adoption e-tourism:**

Electronic commerce offers new distribution channel for the world market of goods and services and presents opportunities to create new businesses that provide goods services based on knowledge (Dargah & Golroksari, 2012). The new product sales channels services have advantages for entrepreneurs and consumers in e-tourism.

- For Entrepreneurs and companies:

Perhaps the most important benefit of a businessman from the adoption of e-tourism technologies related to the affordability of a large number of potential customers at low cost. Some of the major operators travel spend millions of dollars each year to produce brochures about available travel and offers. By using e-commerce, the corresponding cost is minimized. Second area using electronic commerce contributes to reducing costs are the costs for the operation of telephone customer service centers. With the adoption of e-commerce techniques, the corresponding costs are kept significantly. Finally, the adoption of e-marketing solutions also significantly reduces the costs of promotion tourism services and setting aside spending. Also, no internet restriction on the size of the available information on travel offerings, format information display (eg text, image, audio file, video file) and the possibility of interactive information organization (O'Connor, 1999).

Apart from the cost, the use of the Internet to promote tourism services, allows the operator to reach the global market. Without e-commerce technologies, a businessman based in cooperating tour operators, can not he directly controls the promotion and dissemination of the services offered in various regions of the world, by the cooperating agent (O'Connor, 1999).

The electronic tourism offers flexibility to operators, and allows them to adjust the prices and availability of services directly, without the need again print the respective forms. It also enables the operator to adjust prices based on the demand that exists every time (Cardoso & Lange, 2007). Moreover, adoption of information technology solutions in tourism can help to improve the quality of services offered and to help increase the satisfaction of visitors / travelers. It offers opportunities to improve customer service and retention of existing customers through the ability to offer personalized services and tour proposals.

With the help of e-tourism services, the operator can collect information about customers and then uses this information to provide customized services - offers to them.

When a customer makes a reservation of a car or an apartment, you may search for and additional services, which enable the operator to propose a combined online sales, increasing areas action and profits can be gained from each customer. To rent an apartment can the customer to buy a basket and welcome drink. Similarly, a car rental company might offer customers the possibility to rent the GPS system .

Also, using electronic commerce technologies facilitate business entrepreneur transactions engaged in providing tourist services with their partners. By using the Internet, they have eliminated past problems on incomplete computerization of services. Most difficult problems overbooking occur because the Internet possible communication problems cause similar problems, have been eliminated with the development of relevant applications to support the tourist services organization (Batinic, 2013).

- The benefits for adoption e-tourism to the customers:

The e-tourism has increased the number of options for consumers. Before the development of the Internet, consumers usually have access only to large commercial enterprises and mainly in tourism businesses. Plus using Internet travelers can evaluate the options and to compare the offers available as to the destination of a journey, seeking information from travel companies worldwide. Using specific search engines such as Expedia or Edreams, the potential travelers can identify and evaluate products according to their preferences and requirements (Buhalis & O'Connor, 2005). For example, the rapid expansion of low-cost carriers such as EasyJet and Ryanair, as well as the availability of package holidays and hotel deals with low prices compared to the prices can the person have after contacting a hotel, is longer possible travel arrangements with lower prices. Besides the tour option with lower prices, the electronic tourism offers great convenience to consumers to organize a trip. From their desktops, potential tourists can organize every detail of a trip at any time of the day. Or onvenience of the e-tourism, has resulted in customers require less time to find information about travel planning to make faster and make comparisons between the available options.

Moreover, the tourist services market websites are available to customers 24/24 hours 7/7 days, thus facilitating their use by potential travelers. Moreover, in addition to convenience, now it is possible to travel to areas where it would not be possible to organize a trip without the support of specialized information provided by the internet.

#### **2.3.4. Limits of adoption of e-tourism:**

The e-tourism as the e-commerce presents certain limitations in the application of both business and consumers:

- For the entrepreneur:

For entrepreneurs operating in the tourism industry, the lack of access to relevant e-commerce technologies, will significantly reduce their income and future prospects of their enterprise (Dargah & Golrokhshari, 2012). Also possible option support platform supply of tourism services via the Internet, which is not accompanied by effective and easy to use customer service system, limiting positive effects of adopting e-business. Most non-technological problem of a businessman associated with payment issues and protecting the privacy of their clients, matters that can discourage consumers from making online transactions. Businesses must take protection of their customers, providing secure transactions and protect the confidentiality of personal data by using advanced data encryption methods. The use of e-commerce services on the one hand increases the volume of customers that can reach an operator, but also increases and competition, as now most tourist service providers active in the field of e-tourism.

Also, for travelers who purchase travel services online, usually the services market via a related website, provides travelers the right post comments - impressions of the services they received. Negative comments for an operator, will have the effect of restricting future markets through the respective website for that operator. Finally, the biggest challenge for an entrepreneur is to analyse data collected through E-commerce solutions, and to understand the customer behavior and requirements have earned via the Internet in order to offer personalized services and offerings (Morand & Mollard, 2008).



- For the customer:

An impact of tourism development, related to the reduction of economic activities of traditional travel agencies, resulting in the loss of work for many employees working in similar businesses. Also, consumers without knowledge of e-commerce will not be able to exploit the possibilities offered by e-commerce in the tourism sector, and will disadvantage against their fellows (Dargah & Golrokhsari, 2012). The great development of the Internet has created a large amount of information, some of which may be inaccurate and false. For this reason, there is a risk of misinformation from internet, reducing the efficiency of information search. For it, users should seek information from reliable travel sites. From the consumer's point of view this can lead to frustration due to increasing the number of options, and available features. (Allen & Shoard, 2005).

An additional restriction on online bookings is the cancellation policy. Often packages available at low prices online, not accompanied by potential cancellations or change on services reservation dates. Users should have carefully read the cancellation policy of the reservation and proceed to complete a transaction, only if it is absolutely sure to make a trip. When a traveler makes a reservation online, not supported by another person (eg employes in travel agency) in booking process will inform the customer about any questions. It is up to the traveler to read and understand the complex conditions of use and booking conditions - Cancellation.

In addition, the online reservations usually advance an amount needed and many times require prepayment of the total cost of services that the consumer acquires. Buying low price travel packages from unsafe websites, risks or theft of credit card numbers, or risk to fall victim of a consumer fraud by buying and discounting non-existent services. There are cases where travel agents extorted customer reservations, offering low price for a limited number of places, not providing travelers the necessary time for market research and price comparison.

In the customer attempt to exploit an offer with limited availability, possibly with comprehensive market research have avoided the same reservation as either could find corresponding offer better value or better benefits (Agheorghiesei & Ineson, 2011).

There are several cases where travel websites attract customers with low prices to catch their attention, and then add additional fees and charges for additional benefits in much or less competitive prices. Therefore, consumers should be particularly attentive to the services purchased and the price charged by each of them (Morrison, 2001). Finally, a few small inns and local guides do not have a web presence. If a traveler limit the search on the internet, you may lose the opportunity for lower and better quality tourist services from small businesses .

### **2.3.5. Forms of E-tourism:**

The design of a journey usually begins with a search for information on the internet about the impressions and previous guest comments in the corresponding parts for the stay hotels, area attractions, ways of getting around the destination area, impressions restaurants etc. Potential tourists have become more independent than ever and use a wide range of e-tourism tools for organizing their travel (Buhalis & Law, 2008).

#### **2.3.5.1. Destination management systems (DMS):**

Includes all sites that are designed to provide information for a travel destination. Usually concern the respective municipalities in order to support the tourists who have chosen to go their site, designing the use of information and communication technologies to support the main functions of a destination management system for organization (products, services and customers), marketing (promotion, marketing and customer relations) and administration economic). This system is based on two functions, the compilation and dissemination of information. Its main objective is to promote a destination, to facilitate the dissemination of information and to allow tourists to book their stay on the site. DMS attempt to use a customer centric approach in order to manage and market the destination as a holistic entity, typically providing strong destination related information, real-time reservations, destination management tools and paying particular attention to supporting small and independent tourism suppliers (Frew and Horan, 2007).

Exemplary information may include relevant websites are all about the currency of the region, useful numbers, hospitals in the area, taxi phones, offering attractions of the region, presentation of the history of a town, restaurant recommendations, suggestions for excursions in the surrounding areas and list professionals in the area classified by service category (eg restaurants, hotels, museums etc.). Examples of countries websites are:

- [www.visitmorocco.com](http://www.visitmorocco.com) (Morocco)
- [www.hometurkey.com](http://www.hometurkey.com) (Turkey)
- [www.discoveramerica.com](http://www.discoveramerica.com) (USA)
- [www.tourismtunisia.com](http://www.tourismtunisia.com) (Tunisia)

When a traveler planning to visit a country, usually visits the corresponding official website of information on the state planned to visit. In addition, there are available corresponding Web sites for most cities in the world, to raise additional useful information from a visitor:

- [en.parisinfo.com](http://en.parisinfo.com) (Paris)
- [www.nycgo.com](http://www.nycgo.com) (New York)
- [www.visitdubai.com](http://www.visitdubai.com) (Dubai)

Also, there are several sites that provide content - travel information areas for the whole world and relevant destinations. Regardless of the region plans to visit a traveler visiting their respective websites will find useful information on the destination of a journey. Related websites:

- [www.routard.com](http://www.routard.com)
- [www.worldtravelguide.net](http://www.worldtravelguide.net)
- [www.lonelyplanet.com](http://www.lonelyplanet.com)

Finally, there are available sites with travel information from around the world, where their content is based mainly on the same guests with travel experience posts, comments, photos and post evaluation for the attractions of a region. The best known - popular related sites are:

- [www.tripadvisor.com](http://www.tripadvisor.com) (TripAdvisor)
- [www.yelp.com](http://www.yelp.com) (Yelp)

Sites that provide information on travel destinations based on content posts from people who have already visited a destination, it is very popular among travelers. Indicatively, TripAdvisor branded sites make up the largest travel community in the world, reaching 390 million average monthly unique visitors (TripAdvisor, 2016.)

#### **2.3.5.2. Computer reservation systems (CRS):**

The development of the systems (CRS) began the 60s with a focus on automation of reservation to airlines procedures. The airline booking systems available include route control, route of price management, passenger reservations and management of ticket files (Schulz, 1996). These systems include a central database allowing a tourism business the easy availability service management in order to make it accessible to its partners, management of available services. The CRS systems allow a company the easy availability service management in a central database, while informing partners simultaneously offer tourist services entrepreneur. Also, according to the demand appears's reservation systems, originally used by airlines, but nowadays used by hotel chains in this case allow flexible pricing services per day and hour, tour operators generally from tourist services require centralized service booking system. The CRS has been designated as the "circulatory system" of tourist services in the world (Buhalis & Jun, 2011).

#### **2.3.5.3. Price comparison websites:**

Consumers are largely handling e-tourism services to evaluate alternative travel options and to compare the available options (Telegraph, 2014). Travel websites with price comparison like ([www.skyscanner.com](http://www.skyscanner.com)) searching for the best offer available online according to their preferences. During recent years there has been proliferation of online price comparison sites.

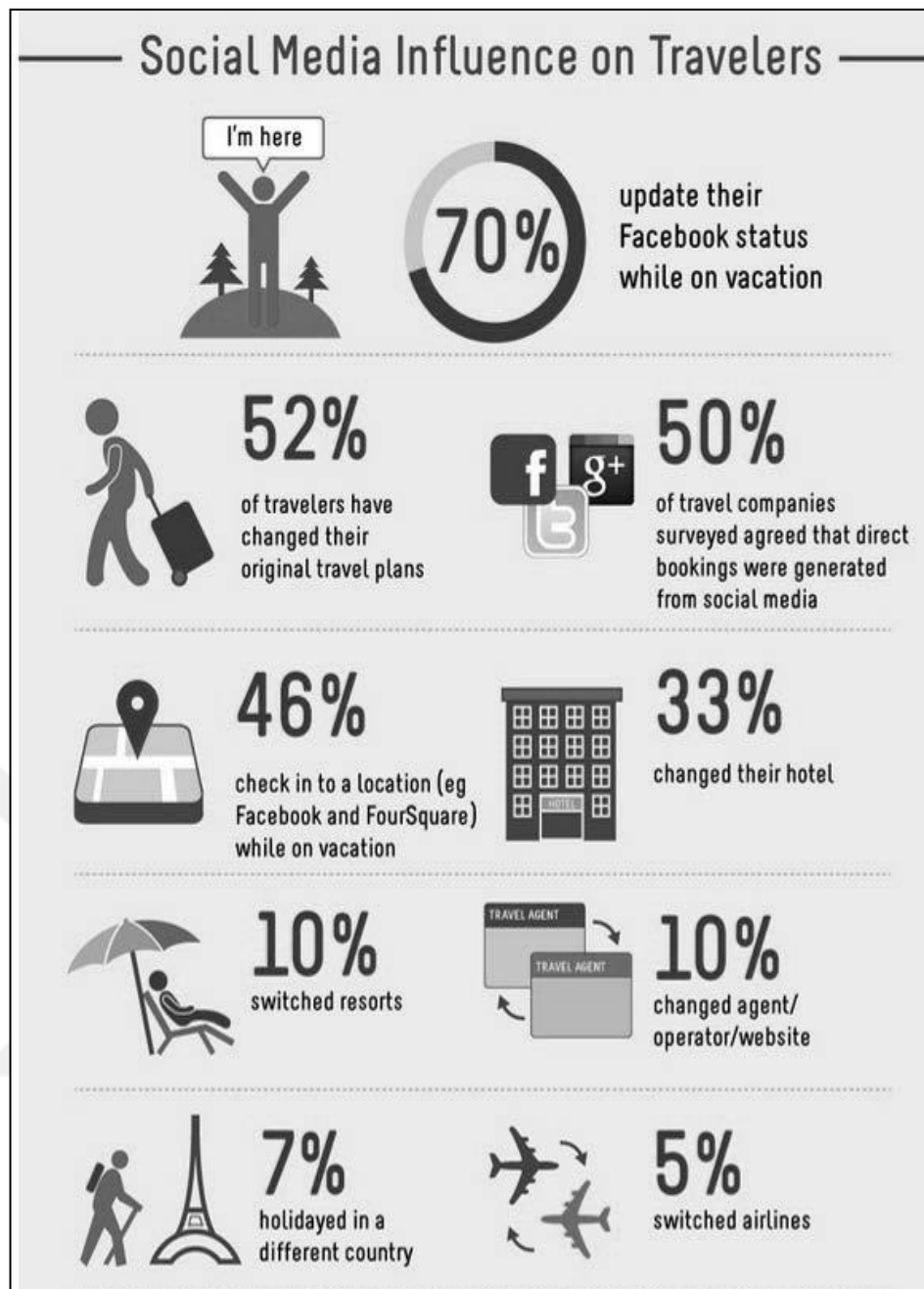
These sites looking through the available tourist services from all cooperating service and compare the options available based on the search criteria of the user. Among the services for which it provided comparison are the following (The Guardian, 2009) :

- Air flights (skyscanner , kayak, expedia)
- Hotel reservations (hotelscombined, trivago, hotelly)
- Car rental (Traveljungle, Car-hire-centre, sixt)
- Travel insurance (Comparethemarket)
- Tourist holidays (Travelsupermarket)

#### **2.3.5.4. Social networking portals:**

One of the major challenges for tourist areas and businesses that provide services, is the development of social networks. Platforms like Facebook, Twitter, YouTube, and MySpace allow travelers to interact and share their views and experiences with unlimited possibilities through virtual communities on social networks (Stepchenkova et al., 2007). The term social network is meant The term "social networks" generally refers to all the websites used to create a network of friends or professional knowledge and providing their members with tools and interfaces for interactions, presentation and communication. The social networks have transformed the role and behavior of travelers. They have changed the way of searching for information and creating consumer confidence for a destination, through cooperative production destination information between the virtual community of users (Sigala et al., 2012). When using social media networks, travelers jointly produce and share significant amounts of information and experiences created by themselves and are available to all potential travelers a destination. This way travelers are co-creators and co-consumers of travel and tourism experience of the members of virtual communities (Kotler & Armstrong, 2010). The users of social networks is increasing the involvement of people from all over the world to them, it is a social phenomenon of this century.

There was nothing about a decade ago below are possible changes to the design of a trip, after effect of posts of other users in social networks. Almost half of travelers have changed their original travel plans during a trip by consulting the content in social networks.



**Figure 2.10:** Impact of Social Media on Travel Hospitality.

**Source:** Funsherpa. Impact of Social Media on Travel Hospitality, (2012).  
29/09/2016

Millions of users, business travelers and exchange views, asking for help in organizing trips from past travelers, make proposals, analyzing their needs, they seek help satisfy their claims from a trip, share experiences with products and services they have received and directly share their experiences through virtual communities. The distance between users is bridged with the help of social networks, online and broadcast experiences have become publicly accessible information, positive or negative for services received.

### **2.3.5.5. Travel recommendation systems:**

Personalization has been considered as an important factor for efficiency, super value addition for the user and success in the field of e-tourism (Schmidt-Belz et al, 2002). The travel motion systems offer personalized services to users. Recommender systems are commonly defined as applications that e-commerce sites exploit to suggest products and provide consumers with information to facilitate their decision-making processes (Ricci, 2002). This e-commerce system that offer users services of tourist interest and provide information to facilitate decision-making on the realization of a journey and market related tourist services (Schafer et al., 2001). There are two classes of travel motion systems (Srivihok & Srisuwan, 2010):

- Based filtering content: provides a tip based on the content of a search. The criterion for selecting the proposals based on user preferences and description of available tourist services (eg stock price range, type of travel, travel services etc.). If there is a match between them, such services are proposed to the user.
- Collaborative filtering: based on a comparison of the characteristics of a user to other user's characteristics. Then based on impressions and guest faculty in various areas and the similarity in feature between the users, alternative travel destinations offered to users.

Example travel proposal system is the TripEneer providing recommendations based on user profiles based on data collected from social networks (Yerva et al., 2013).

### **2.3.6. The cycle of a journey:**

There are five essential steps of organizing a trip over the internet for consumers (González, 2011):

- Travel Idea (dreaming): World Wide Web has now surpassed the traditional dissemination trips realization proposals by word of mouth as an inspiration for trips. Travelers with internet access, choose a destination before deciding where or how they are going to travel. Reading comments on blogs and viewing video online on leisure or business travel.

- Search (researching): once consumers go beyond the dream of carrying a travel and tour options have been limited, usually begins the longest information of searching for prospective destinations. During search of information about possible trips (eg available attractions, hotel rates, transition fares, destination reviews from previous visits), limiting the options available and the consumer selects the final destination of the trip.
- Reservation (booking): at this point the traveler has come on the destination of a journey and goes in search and comparison transition ticket price and travel dates using the price comparison websites. The reservation will become just the consumer consider that identified an advantageous offer. Reservations can be made through websites intermediaries, directly from their websites providing related services in the destination area or through price comparison websites.
- Trip Output (experiencing): during realization of a journey, has not stopped the use of e-commerce technologies for travel arrangements. Travelers continue to seek information online for sites that should be visited, urban transport routes, weather, opening times and book tickets for museums, reviews of local restaurants, car rental or important events of their period of stay in the area made the trip.
- Experiences notification (sharing): the journey has been completed and the traveler shares in online virtual communities on the trip made (eg general travel impressions about the hotel, restaurants visited, rating for attractions).

### **2.3.7. Essential components of a site:**

The first step on the involvement of a businessman with e-commerce solutions to support tourism services is the choice of travelers - norm aiming to attract the operator, through the associated site development. Steps for a successful website (Kuo, 2011):

1. Properly Structured Website.
2. Mobile Friendly Shopping Experience.
3. Product Descriptions with Pictures.
4. Easy Checkout Process.
5. No Unexpected Shipping Fees.



The design of a website is an essential part of retaining visitors and should support self-service capabilities, without the need to contact the businessman (Lueg, 2002). The most important part of a website is the home page, which is to showcase a business. The home page serves as the welcome screen for the guests, and a summary map for navigation on the website pages. The home page should contain all information which describes the business and inform visitors about how you can identify the information they seek (Woodside, 2010).

Main characteristics of a site that will keep a visitor are: Usability, easy navigation menu, the display contact details of the provider, simplicity in design, the potential interaction between users (e.g. chat, polls), and the potential search among the available offers and apply relevant filters. The website should include communication features and interactive elements, through which visitors can easily communicate with a site representative for more details or even more important to be able to interact with other guests and share experiences and vacation plans. Additional factors that may affect the acceptance of a website is the loading speed of the pages on the site, the high availability of the site, accessibility from different devices (e.g. mobile phones, tablet), the absence of errors in the code of the website and the presentation of content of the website at least in English, in addition to the official language of the country that operates a business (multilingual). Finally, it is a site that offers tourist services, there is also content about the region that operates the company for user convenience. The information should be clear – without syntax errors in the texts as they will adversely affect the image of the client company Ms. Quality of services offered (Baggio, 2003).

#### **2.3.8. E-tourism and trust:**

Electronic commerce has introduced a new concept in information technology: the trust in the machines. Not associated with market incentives and possible competitive price of a product or service online. In E-commerce reliability can affect consumer confidence and, also concerned the operator. When users start navigating, they begin to develop some certainty about the reliability (Gurrea et al., 2006). The success of a website can be measured by several indicators:

- How often the user uses?
- How often users return to the site?

- How often recommend it to friends?
- How often buy similar products from the same site?

The confidence in a site can be defined as intent or predisposition of a customer to purchase products or services again from the same website. The predisposition stems from the belief that the price to be taken from this site is the best among all trusted sites and the quality of the service is also the best. The development of a website that inspires confidence in users has always been the objective of e-commerce owners (Guinalú et al., 2008). The dedication of a user to a website is enhanced if the area becomes more and more valuable to the user at every visit if discovers that new services and new information. One of the key elements to trust a website is the usability of the site, while the lack of usability dramatically reduces the purchase intention.

According to Matsatsinis, Lakiotaki & Muhtaseb (2012), five factors will affect the level of trust can provide website for visitors:

1. Content: customers want timely, abundant, accurate and correct information.
2. Personalized services: customers interested in their recognition of the site and provide customized offers based on previous searches and previous trips they have made.
3. Interaction: customers want to have the ability to be able to add, modify and participate in the management of a site's information. They want to interact with other customers and comparability of products.
4. Navigation: users should know at all times where they are and where they are going to add navigation tools, such as links, site map and search capabilities.
5. Accessibility: access to the site from computers and mobile phones. Also, special care to support customers on demand.

#### **2.4. Mobile Electronic Commerce (MEC):**

The mobile electronic commerce (m-commerce) is a subset of electronic commerce and includes all activities related to a (potential) commercial transaction conducted through communications networks that interface with wireless (or mobile) devices (Tarasewich et al., 2002).

### **2.4.1. Reasons of development of m-commerce:**

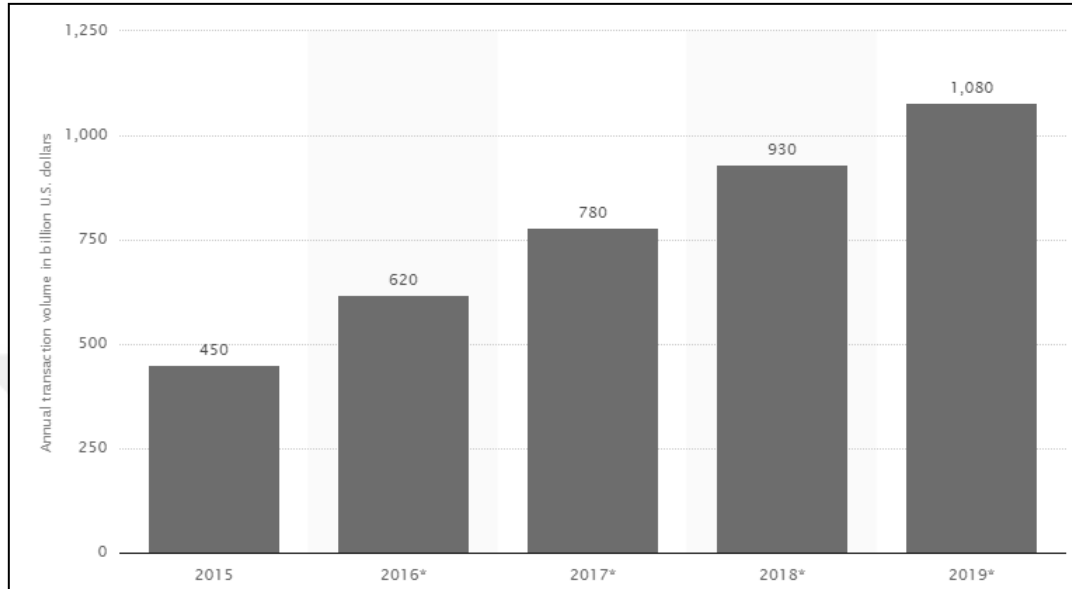
Wireless communications networks are the mainstream for the operation of electronic commerce using mobile. Wireless networks allow the transmission of data between mobile devices (such as smart phones or devices) and with desktops or e-commerce application management servers. The main difference between e-commerce using mobile (m-commerce) and traditional electronic commerce (e-commerce) is to use a wireless network to execute transactions, the selling and buying products and receiving and providing services. Typical examples of the m-commerce are:

- Mobile banking
- Flight tickets
- Cinema tickets
- Restaurant reservations
- Hotel reservations

Through mobile commerce services, users can send and receive emails, download audio / movie / document / animations files, to buy products and services, play interactive online games, manage inventories of their business, to book tickets, find friends, conduct financial and banking transactions, and so on. One of the main benefits to performed from anywhere in anytime.

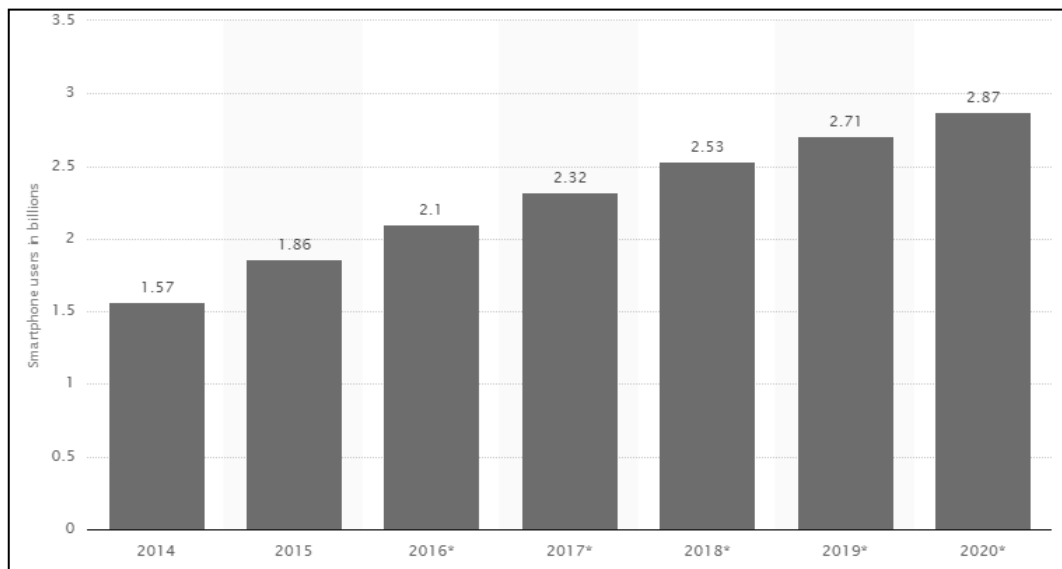
-Market size:

The total sales volume of mobile phones in 2015 exceeded \$ 450 billion. Regarding Statista (2016), the sales volume of mobile commerce is estimated to rise further in the coming years, as shown below in Figure 2.11 and simultaneously the growth of user numbers estimated to 3 billions in 2020 in Figure 2.12:



**Figure 2.11:** Global mobile payment market from 2015 to 2019 in billion U.S. dollars.

**Source:** Statista. Total revenue of global mobile payment market from 2015 to 2019, (2016). 22/10/2016



**Figure 2.12:** Worldwide smartphone's users from 2014 to 2020.

**Source:** Statista. Number of smartphone users worldwide, (2016). 22/10/2016  
Smartphone penetration by country:

The use of mobile phones on the part of Internet users do not have the same frequency in all countries of the world. In the following Table 2.3 shows the proportion users who have used a Smartphone to purchase online, by country in 2015, according to a survey of Pewresearch Center (2015), 77% of Australia population purchase online :

**Table 2.3:** The demographic digital divide is real and pervasive owning a Smartphone

Country	Total %	Age			Education			Income		
		18-34 %	35+ %	Diff	Less %	More %	Diff	Low est %	Hig her %	Diff
United States	72	92	65	+27	59	81	+22	64	84	+20
Canada	67	94	58	+36	58	73	+15	61	80	+19
France	49	85	35	+50	38	69	+31	37	59	+22
Germany	60	92	50	+42	48	68	+20	49	68	+19
Italy	60	88	52	+36	56	83	+27	46	74	+28
Poland	41	75	25	+50	12	47	+35	27	52	+25
Spain	71	91	64	+27	63	85	+22	63	81	+18
United Kingdom	68	91	60	+31	60	80	+20	59	84	+25
Russia	45	76	29	+47	**	**	**	25	53	+28
Ukraine	27	56	13	+43	6	28	+22	13	38	+25
Turkey	59	81	39	+42	34	86	+52	**	**	**
Jordan	51	60	41	+19	32	72	+40	34	64	+30
Lebanon	52	74	37	+37	17	79	+62	20	85	+65
Palestine	57	73	39	+34	38	74	+36	47	66	+19
Israel	74	87	67	+20	68	80	+12	63	83	+20
Australia	77	95	70	+25	67	85	+18	62	88	+26

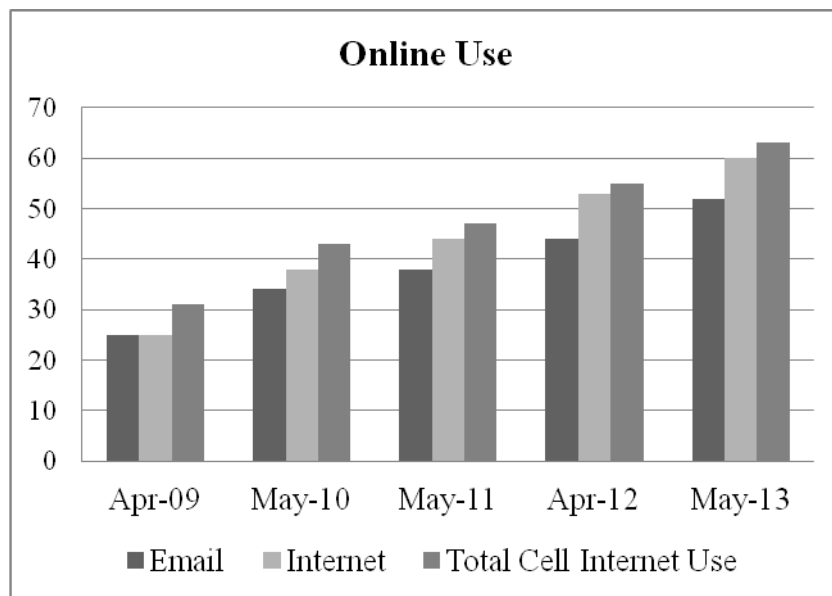
**Source:** Pewresearch Center. The demographic digital divide is real and pervasive owning a smartphone, (2015) . 22/10/2016

The most important factor in favor of mobile commerce development is the rapid development of smartphone's technology. The technology has improved so much, resulting in the mobile phones of the past only slightly resemble those used today. An old mobile phone could be used for the telephone call to other mobile users or to send text messages. Today's latest generation of mobile phones (eg iPhone) look more like a computer than a phone. By using them, users can navigate the web, check the weather, to see how many calories includes the meal is ready to consume

and generally a modern mobile phone can entertain the user with hundreds of different ways.

In the not too distant past, mobile commerce meant the purchase of audio files (ringtones) for the phone. Today, there are many of ways customers use mobile phones to purchase goods.

Apart from the most common transactions such as downloading apps or games, there are many new ways that modern mobile phones help companies sell their product (Carrington, 2011). At the same time, the rise of mobile e-commerce can be attributed to the increasing number of consumers familiar with the use of smart devices (smartphone) or other mobile phones with Internet access at home and increasing competition between companies to offer services through multiple channels especially with communication channels for mobile phones (Cheng et al., 2012). As shown in the previous figure, almost all consumers except Africa, parts of Asia and Central America holding a cell phone. Considering that in the percentage of consumers who do not have mobile are older people (which would be quite difficult to proceed with online purchases) and people with very low income (which also would be difficult to proceed with the purchase of products via the Internet) almost all consumers could buy a product online, with at least one mobile phone. Therefore, mobile e-commerce, can be accessible to all potential consumers, which is not true to the same extent as the traditional e-commerce.



**Figure 2.13:** Online use.

**Source:** Pew Research Internet Project. Online use, (2013). 17/10/201

If held mobile phones, the majority of the world population, taking into account the results of the pew research internet project survey (2013), according to which 2/3 of mobile phone holders, use it for accessing the Internet (US), the importance of a business, its presence in the mobile e-commerce.

#### **2.4.2. Mobile e-commerce fields:**

Mobile devices allow potential consumers to perform business activities, carry out financial transactions and analyze financial data anytime, anywhere. The main growth areas mobile e-commerce applications are:

##### **Mobile banking:**

Mobile users can check their bank account balance via text messages and additionally receive information movements in their bank accounts via messages. Mobile banking is a popular form of mobile commerce most banks focus on the most frequent uses, account balancing, account-to-account and out-of-money transfers, or customer identification when they enter the application. Applications for smart phones provide alerts when the money starts to run low and allow depositors to transfer money between accounts without the need to visit the bank (Taylor & Osman, 2008).

##### **Mobile product or service markets:**

Some stores (mainly in the US) allow customers to pay with phones instead of credit cards. Indicatively, using the Starbucks Card Mobile App, iPhone users can pay for coffee at more than 1,000 Starbucks stores without having to look in their wallet or bag them for money. In addition, smart phones allow consumers to buy like from a regular computer. Customers can purchase products or services using a mobile web browser or by using one of the many applications available for download from the retailers sites and shopping sites (Tang, 2009).

##### **Mobile tickets:**

Users have the ability to buy using mobile tickets for public transportation, theater, museum, for cinema, for parking or fly ticket. The ticket is automatically sent to the user's mobile and it is sufficient to show the ticket from the mobile phone in hand, without the need to press.

Possible, canceling a ticket, it can be done using the same site that was used for the issuance of the ticket and the ticket code to cancel. In this category and hotel bookings and sending reservation form directly to the mobile phone (Foster, 2012).

Mobile coupons and discounts:

Coupon or discount offers are sent to the mobile phone (having unique code each). The coupons can be sent based on the current location of a user (GPS), the birthday of (customers) preferences in previous purchases products (data mining to market data) and in promotion actions. Users do not need to print the coupon, the mobile phone can receive the discount immediately at checkout (Heath, 2013).

Mobile update:

Includes sites and applications from which the user can be informed about current news, sports news, weather, traffic information on roads, view the map of travel routes proposed use travel agent depending on the time of travel and the available user money (Lee, 2012).

Mobile entertainment:

The mobile entertainment applications allow a user to purchase mobile movies, books, recipes, songs and games and can immediately rely on his cell phone without the need to use a computer. Payments (where necessary) are mobile and download the corresponding file within the mobile phone that was used for the purchase. Alternatively, the user can take in the e-mail link to the download file and download it later from any mobile device or a personal computer. In entertainment and include sites or apps casino and online betting using mobile (Leontiadis et al., 2012).

Mobile shares:

Investors can track stock prices wherever they are, using the mobile e-commerce services. Because the stock market is constantly changing, investors often use mobile phones to conduct transactions and check stock prices. Several smart phones sold with pre-installed applications for the control of the shares. Additional, third-party applications installed provides additional functionality to monitor stock prices and historical analyzes of variance of shares (McCabe et al., 2012).



### **2.4.3. Advantages and disadvantages of m-commerce:**

Advantages of m-commerce:

The mobile m-commerce compared with traditional e-Commerce additionally offers advantages for both the operator and the consumer:

-For entrepreneur and Operator:

With mobile e-commerce a businessman can reach more customers. The number of people who do not own a mobile phone is far less than the number of people without access to a computer. In any case, the site possession for mobile e-commerce adds a new sales channel for a business. More sales channels offer more brand support opportunities (brandname) a business and sales opportunities through a new sales channel. One of the most powerful features in social platforms is that people can read content online, like and share reading content with a single click. This allows within minutes of reading the content page, to reach the user's friends. Most interactions of social networks (socialmedia) take place using mobile devices. Therefore, the mobile is the way that the content of a company's website can be promoted to the general public in a very short time (Rosli, 2012). In addition, 1 million. Facebook users (nearly one in five) use the social media network dedicated to mobile use. Also, the use of mobile phones comes 30% of ad revenue for Facebook (Cooper, 2013). Combining mobile ecommerce with GPS technology services, it is possible on accurate identification of the user's location when visiting a website (if enabled the corresponding service in the intelligent user device) in order to receive special offers by location, if it is near in the physical store a business. This feature can be particularly useful for hotels, restaurants, cinemas and shops. Also, the fact that the user is always with his mobile while visiting a large shopping centers, enables operators to add additional services, such as routing possibility of a visitor in a shop, positively enhancing the shopping experience in physical stores to support mobile commerce services (Pettersen, 2014).

-For customer:

The main advantage comparing to traditional e-commerce is the flexibility it offers. While the use of e-commerce is possible only when the user is at home or at work or any other location with access to a personal computer, mobile e-commerce, is available everywhere, as long as an active Internet connection and a mobile phone (Jagannath et al., 2013).

In addition to flexibility, the time - speed required for opening a mobile device (usually always enabled) is significantly less than the time required for the activation of a personal computer and loading the operating system. For the comparison between stores, using mobile phone, the search may take a few minutes, with a personal computer, the time is usually longer. Also, with the increasing competition in the mobile commerce sector, there are higher chances for better deals to customers in mobile commerce sites. Mobile devices give consumers the freedom to complete a purchase via their mobile literally "on the road". Suppose that someone visits a store to buy a product and think together about the attractive discounts available in an online store. In similar cases, most people end up using their mobile phones to compare prices and products on different sites to reach a product purchase decision at the same time (Barnes, 2002). Furthermore, the combined use of a web ecommerce mobile and GPS technology, a user can easily in real time to identify the location of a shop and go to that. Also, in addition to e-mail, in several mobile commerce sites the user has the ability to send a message (SMS) to a store with questions or queries. For most users, the use of mobile phone (which is part of their daily life) is preferable because it is more familiar with using mobile phone, rather than using a computer (Clarke, 2008).

Disadvantages of m-commerce:

However, mobile e-commerce is not free from limitations on the effective use of the trader and the consumer:

-For the entrepreneur:

To support mobile e-commerce by a company is required to re-design the site to be suitable for use and navigation via mobile phone. The screen of a mobile phone is very small relative to the screen of a computer, thus the amount of information displayed on the screen will be different as well as the quality of the graphics and the accompanying product description images. The redesign while maintaining dual version of a site (for the personal computer and a mobile phone), increases the time and cost of design and redevelopment of a site.

Additionally, there is a reluctance to complete a transaction using a mobile phone. In a survey conducted by the Baymard Institute (2013), found that 75.1 percent of users of smart devices do not use their phone to finally complete the purchase using mobile, but after browsing to websites using mobile and locate desired products on the market, will make the purchase using a personal computer.

The same survey found that 24.9 percent of users made a transaction using a mobile phone and on average they spent \$ 98 on a product or service at the same time mobile e-commerce (Appleseed & Holst, 2013).

Therefore, before a company spend amounts to develop a payment system using mobile, should take account of the particular restriction. This trend is linked to the size of the screen and small keyboard availability for completing the data required to complete a transaction (Tiwari & Buse, 2007). Another challenge for m-commerce service providers is that you need to develop applications for multiple networks and a wide range of devices. According to Vanu Bose, Chief Executive Officer (CEO) of Vanu Inc, observed that while there are only two major Internet browsers for computers, the world of mobile phones are multi-functional with multiple browsers systems, so that the same website can be displayed completely different on different screens. The lack of standardization of browsers on smart devices, making the development of m-commerce applications more accurate (The Aspen Institute, 2007).

Taking into account all the above constraints in integrating mobile e-commerce in a company, it is clear that they have restricted the functions available on a website for mobile commerce, in relation to the offered sites of traditional e-commerce.

They are also limited and opportunities available in a mobile commerce site than a traditional e-commerce page (Siau et al., 2001).

-For the customer:

A key question arises about using mobile e-commerce is the screen size of a mobile or smart device as its small size often makes it difficult to estimate the appearance and feel of the products. This restriction has less effect if it is a product which consumers are already familiar with it or, if it is a product for which appearance is not the primary factor that will determine the decision of a customer. Otherwise, users may be a little reluctant to complete the purchase via their mobile, without having the opportunity to see first close the corresponding product (Li & McQueen, 2008). Besides a product evaluation difficult because of the small screen of a mobile in relation to a personal computer, the size negatively affects the experience of completion of a transaction using a mobile. Every consumer who has similar experience, can confirm that entering the 16-character (credit card number) to a mobile phone is not an easy process.

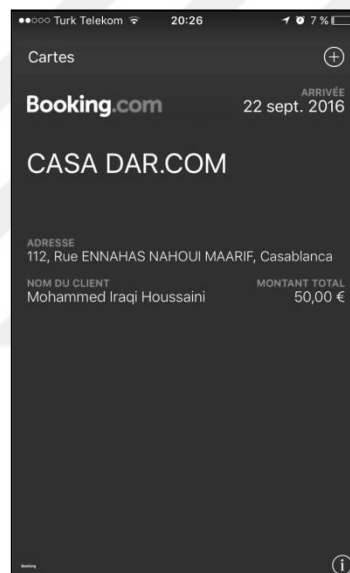
In addition, even more than in the traditional e-commerce, ordinary users are concerned about the safety and reliability of trading via wireless connections. Users of mobile commerce, will only participate in m-commerce transactions if they have confidence that transactions made through their devices are safe (The Aspen Institute, 2007).

#### **2.4.4. Payments via mobile:**

The use of credit cards and completing relevant forms of payment in mobile e-commerce sites, an inhibiting factor for the development of mobile commerce (small screen, small keyboard). To address this issue, they have developed various solutions that facilitate and encourage the use of mobile electronic commerce.

-GoogleWallet:

The GoogleWallet, is an application including digital wallet into the user phone or other portable device that allow the storage of virtual versions of components that can be found in a physical wallet, such as credit cards, bank account information, gift cards, coupons or customer loyalty cards even event tickets and boarding cards on public transport. The information can be stored on the device itself or in the cloud, and can be used to purchase products in physical stores (in the US) and purchases online. Practically the Googlewallet, relieves the user from the need to carry with him money enough to have with him a mobile comprising its electronic wallet. Since 2013, it is now possible to send money via email (in the US), after linking the google wallet and Gmail from Google Apps (Dragt, 2012).



**Figure 2.14:** Buy with GoogleWallet.

**Source:**GoogleWallet. Buy with GoogleWallet, (2013). 17/10/2016

To use Google wallet in electronic transactions via mobile and traditional e-commerce, it is sufficient to visit sites that support the related application, pressing the purchase button by Googlewallet, to complement the user code and the transaction is completed directly as long as you have the wallet user the necessary money. The user is sufficient to declare and confirm once their online bank accounts or credit cards in the electronic wallet and then can transact with Googlewallet and charge the linked bank account.

-ApplePay:

The Apple Pay is like the Google Wallet a convenient method of payment using mobile phones.

The Apple Pay requires no special payment terminals, but cooperates with the terminals of Visa, the MasterCard, and terminals of American Express (Ngu & Scott, 2015). Similarly with GoogleWaller, once the connection of bank accounts and credit cards and then the user as they browse the mobile e-commerce sites, pressing the payment button ApplePay and import user information, complete a transaction quickly and easily using a mobile phone.



**Figure 2.15:** Payment by ApplePay for booking.

**Source:** Caption from author Appwallet, (2016)

In addition, payments in stores can be performed with other applications like to receive confirmation and book your hotel room, flight ticket, etc.

-PayPal:

The PayPal, the giant of online payments, has released new payment services through new app payments for iOS, Android and WindowsPhone that allows the user to store his credit cards within the app (encrypted information) beyond the regular payment sources at PayPal.

People using the new application can request a restaurant participating in the program to pay to use the respective service for mobile phones. Also, in the space of a restaurant or hotel, the user can pay the mobile phone instead of a credit card or cash (Darie & Balanescu, 2008).

Like GoogleWallet, the new PayPal application incorporates offers and discounts are automatically applied when paying a product either online or purchase in-store payment and the implementation of PayPal Mobile.

The mobile e-commerce is a new trend in e-commerce, which is expected to show a significant boom in the coming years. The greatest advantage of mobile commerce compared with traditional electronic commerce, is the fact that mobile e-commerce, can follow users wherever they are, can people use when really need it and receive a personalized service. In recent years, mobile e-commerce is not limited in trading goods online, but can be used to identify the exact location situated by the user to display the user's location on the map, but also as a wallet containing credit cards, public transport tickets and whatever else can be found in a physical wallet.

### **2.5. Mobile Applications in Tourism Sector:**

The market of tourism products and services previously limited for visits to physical stores (agencies) or in shopping via the Internet and personal computer. However, with technological developments in wireless networks and mobile devices, many consumers use smart devices (smartphones) as a new way for marketing of tourism products and services. Nowadays, there is a need to adapt the business model of companies operating in the tourism sector - opportunities offered by the new channel (Lee et al., 2012). The mobile e-commerce in the tourism sector can meet the needs and difficulties faced by travelers before and during a trip.

### **2.5.1. Consumer's behavior:**

Tourists who visited Glasgow and Edinburgh, it was found that using various objects, such as maps and tourist guides to address problems that appeared in the course of the journey or to receive proposals on the organization in search of trip (Brown & Chalmers, 2003). Typical problems outlined by researchers is deciding which attractions you should visit, what events are representative of local customs in Scotland, suggested travel routes in cities, what the local customs and what the local rules of conduct. The solutions adopted for solving the above problems were varied and included reading and maintaining related notes from maps in destination areas and sharing experiences with friends or acquaintances who have already visited the region (Brown & Chalmers, 2003).

Solution to these problems faced by travelers and similar services with less effort on the part of the traveler can offer mobile e-commerce. The tourist maps and guides can be made available to users on the mobile screen and can allow easy diffusion impressions among travelers from around the world, not only between friends (Rebecca et al., 2010). In addition, the big advantage of mobile commerce applications compared with electronic commerce applications with computer is that mobile e-commerce may follow the traveler during a trip and offer personalized moving services, while the need more (Jagannath et al., 2013). In addition, the development of mobile commerce in tourism was greatly influenced by the overall change in consumer attitudes.

First, consumers are increasingly adopting multi-device user mentality. Mobile devices often become part of the decision making process on a market, even if the transaction is ultimately likely to be held by a different device. Second, consumers are familiar with the use of mobile payments in daily activities. The Starbucks U.S. allows customers to use their mobile phones for payments and slowly payments using mobile part of the everyday life of consumers. Thirdly, the travel companies will have to be selective in the type of products they offer to mobile users. The success of the company Hotel.com and Expedia based on the fact that seven out of ten hotel reservations for the same day is the booking date made mobile (smartphones). Therefore, certain electronic transactions in the tourism sector is particularly suitable for mobile e-commerce (Einav et al., 2014).



### **2.5.2. Mobile tourism:**

Travelers who use their mobile for travel arrangements, are a particularly attractive market - aiming for companies and advertisers. Corresponding travelers usually make several trips on business and tend to have higher than average income (Banoobhai, Anwar, & Keating, 2016). Other factors influencing the adoption of mobile commerce services for travelers is their age, younger travelers have a greater tendency to use the respective applications, the ease of use of new technologies and relevant knowledge available, culture and personal beliefs (Louw, 2010). The mobile tourism represents a recent trend in the tourism sector and includes the use of applications with tourist content that offer services and tours to tourist destinations in the multimedia format performed by mobile electronic devices. The smart devices (smartphones) combine the capacity for interconnection of people from a distance, the direct moving connection to remote sources of information, the exchange of data based on the current location of a user and through social networks, making mobile devices as a powerful and useful tool for travelers (Ghali et al., 2014).

### **2.5.3. Mobile travel applications:**

Mobile applications can be used to support e-commerce with customers and suppliers, and to conduct e-business within and across organizational boundaries. Despite these benefits, organizations and their customers still lack an understanding of the value of mobile applications (Nah et al., 2005). For Darren Huston, the CEO of Booking.com, the concept is "in perfect harmony with the changing lifestyles and multi-media uses of today's consumers". For the distinction of tourism applications require a reference framework that classifies applications according to their characteristics and the services offer (Gavalas et al., 2009).

1. Travel guides and museum guides that can be installed on mobile devices with pre-defined content that can't be customized based on user preferences.
2. Mobile devices used to access portals to find tourist information.
3. Guidebooks for mobile devices using wireless networks or mobile network for real-time access to information searches for the user and can be adapted to user preferences.

The main drawback of the second class of applications is the requirement for active Internet connection and charge the user in searching for information, while the third category requires network connectivity (eg GPS) to the possibility of providing services in accordance with the user's location (location based services).

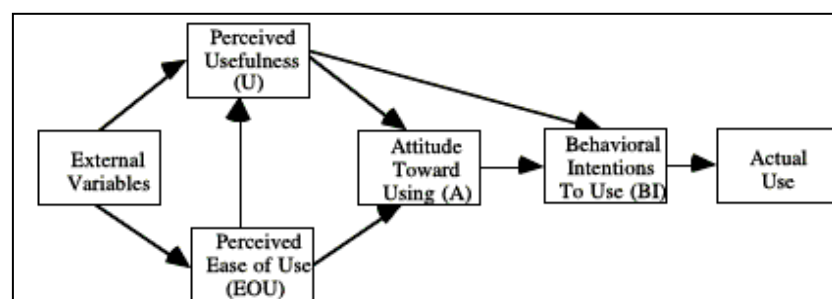
Without the above restrictions is not possible to use the respective applications by mobile phone users (Economou & Gavalas, 2007). Moreover, beyond the mobile tourist guide, there is an additional category of tourist applications includes applications that have emerged alongside the spread of smart phones. These include services based on location, such as navigation and orientation tools (eg Google Maps), and a number of other travel tool.



## 2.6. Constructs of Technology Acceptance Model and Information Adoption Model:

NICTs (new information and communication technologies) have taken a considerable place in society. Among all the facets of the problem, a retirement to the attention: how to explain a technology is accepted or rejected by the users? From the outset, everyone agrees that there is no single factor in acceptance or rejection, but many factors.

TAM examines adoption in terms of perceived ease of use and perceived usefulness on the basis of behavioral intentions and beliefs about the system (Harker and Van Akkeren, 2002). Its objective is to provide an explanation of the determinants of acceptance that is general while remaining parsimonious and theoretically justified. According to the TAM, Perception of Usefulness (PU) and Perception of Ease of Use (PEOU) are the determinants of attitudes toward the use of innovations (Davis et al., 1989). Perceived Usefulness is defined as "the degree to which a person believes that the use of a particular system could improve his or her performance at work". The Perceived Ease of Use is defined as "the degree to which a person believes that the use of a particular system will be effortless" (Davis, 1989). According to Davis et al., (1989), all other factors that are not explicitly included in the model are assumed to influence intentions and use through ease of use and utility. These external variables include system characteristics, training, documentation, decision-maker characteristics, etc. Studies have, however, employment, utility, ease of use, and compatibility that appear to be related to adoption. Accordingly, according to the TAM, the more user-friendly an innovation is, the more it is perceived as useful, the more intentions and attitudes towards the use of positive data increases.



**Figure 2.16:** Technology Acceptance Model

**Source:** Davis et al. Technology Acceptance Model, (1989). 07/03/2017

The specificity and simplicity of TAM is based on the assumption that perceived utility and perceived ease of use are two key beliefs in the prediction of intent to use. These two beliefs are assumed and demonstrated to be independent (Larker and Lessig 1980, Hauser and Slugan, 1980, and Swanson, 1987 in Davis, 1989). Hence the perceived utility corresponds to the intensity of the belief expressed by an individual regarding the potential benefit of the use of the technology in terms of improving its performance in a professional or organizational context. Then, the perceived ease of use indicate to the intensity of the user's belief that the use of the technology requires little or no effort. These two beliefs affect the attitude toward the use of technology, which in turn affects the intention of use. The latter finally predicts the actual use of the system. However, even if the TAM is derived from the TRA (Theory of Reasoned Action), it loses the trace of this filiation, from the moment when, having identified some limits to the original model, excludes the attitude (Davis ,1989).According to Davis (1989), the perception of ease of use would also significantly influence an individual's attitude and achievement through two main mechanisms: self-efficacy and instrumentality. Indeed, according to the theory of Bandura (1982), the more a system is easy to use, the more the user will have a sense of self-efficacy. Similarly, the ease of use of a tool would also give the user the feeling of having control over what he or she is doing (Lepper, 1985). Effectiveness is one of the main factors underlying intrinsic motivation (Bandura, 1982; Lepper, 1985) and this illustrates the direct link between the perception of ease of use and attitude. The perception of ease of use of a tool can also contribute to improving performance. Indeed, effort saved through ease of use, can be redistributed to accomplish more work with the same effort (Davis, 1986).

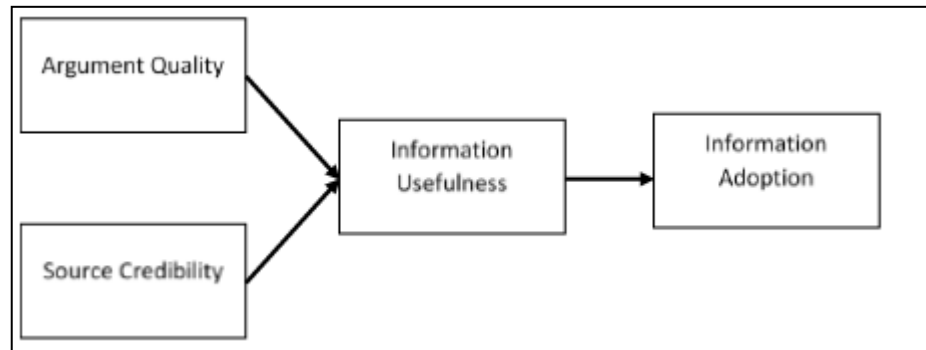
**Table 2.3:** List of studies in technology and tourism area.

Topic	Author(s)	Year Published
Attitude of tourists toward the use of IT	Kaha, Vogtb & Mackaye	2011
Destination information system	Luo, Guo & Jiang	2010
Evaluation of tourism websites	Baggio, Scott & Cooper	2010
	Li & Wang	2011
	Hu, Cheug & Law	2008
Effect of IT on the tourism industry	Buhalis	2004
	Hojeghan & Esfangareh	2011
Effect of IT on tourism enterprises	Cooper	2006
E-commerce and tourism	Vadell & Orfila-Sintes	2007
	Alford	2010
Intelligence	Cretzel	2011
Recommender systems	Luo et al.	2010
	Goossen, Meeuwssen, Franke & Kuyper	2009
Semantic web and ontology technologies	Zheng, Gretzel & Fesenmaier	2009
	Fodor & Werthner	2005
Tourism network marketing	Wu, Wei & Chen	2008
	Lim	2011
	Choi et al.	2007
Tourism enterprises toward IT application	Vrana & Zafiroopoulos	2006
Tourism behavior and services	Matloka & Buhalis	2010
Virtual travel communities	Wang & Fesenmaier	2004
	Chung & Buhalis	2008
Web 2.0 websites	Bingley, Burgess, Sellitto, Cox, & Bultjens	2010

**Source:** Adapted from Li, Buhalis, & Zhanga. List of studies in technology and tourism area, (2013). 07/03/2017

The information adoption model (IAM), was formerly created in an effort to better fathom how people form intentions toward accepting knowledge about specific ideas, behavior, or technology (Filiari & McLeay, 2013 ; Sussman & Siegal, 2013). Not many scholars have probed the experiences of travelers adoption of information from online reviews (Rabjohn et al., 2008).

For Sussman and Siagle (2003), explored that people receiving different suggestions and recommendations from their e-mail.



**Figure 2.17:** Information Adoption Model.

**Source:** Sussman & Siegal. Information Adoption Model, (2003). 07/03/2017

As showed befor, planning a trip demand an large of information search.Thus IAM is important to know how the complexity of the choices. Travelers tend to cherry-pick among several information sources based on their travel plans or their information requirement (Vogt & Fesenmaier,1998).

Except the word of the mouth, family and friends play an important role for those who searching for advice, for a new experiences, and the amount of trust on information generating from such a source is immense and is considered to be high in argument quality (Bieger & Laesser, 2004).

### **2.6.1. Perceived usefulness (PU):**

Perceived usefulness is defined here as "the degree to which a person believes that using a particular system would enhance his or her job performance."(Davis, Bagozzi & Warshaw, 1989). This follows from the definition of the word useful: "capable of being used advantageously." Within an organizational context, people are generally reinforced for good performance by raises, promotions, bonuses, and other rewards (Pfeffer, 1982; Schein, 1980; Vroom, 1964). A system high in perceived usefulness, in turn, is one for which a user believes in the existence of a positive use-performance relationship.

Depending on Davis perceived usefulness is the probability that the use of technology increases the user's performance in the organization (Davis, 1989).

This construct constitutes a theoretical substitute for the concept of relative advantage developed in the theory of adoption (Chiasson and Lovato, 2001). The relative advantage is degree until innovation is perceived as offering a superior advantage to the practice that it supersedes. It can express economic benefit, social prestige or other benefit (Rogers, 1995). Here, perceived utility refers to the benefits that the individual thinks of drawing from the use of the Internet for his traveling.

### **2.6.2. Perceived ease of use (PEOU):**

Nevertheless, it is essential to indicate that the perceived ease of use is weakly associated Perceived usefulness (but remains positive) with the intention of performing transactions. Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" (Davis, 1989). The author concludes that the perceived ease of use can not be considered as an important factor with respect to consumer acceptancing of e-commerce. He met in relation this finding with those of (Gefen and Straub, 2000) who showed that the perceived ease of use favors the acceptance of a website for only online searching not purchases.

Ease of use (EOU) is defined as the degree to which the user suppose that the application will be easy to use. The model is built on empirical results from previous studies, which confirmed that the two constructs are statistically different.

There are some differences from the theory of reasoning, the first being the absence of subjective norms as antecedent of attitude. Davis, justifies this absence by the fact that the effects of subjective norms on the intention to behave represent one of the aspects of theory of reasoned action and its effect on intention can be indirectly manifested through attitude, Processes of internalization and identification. It is therefore for reasons of theoretical uncertainty and psychometric status that Davis abandons the inclusion of subjective norms in his model. The two determinants have direct, positive effects, Davis relying on past research that empirically confirmed the existence and meaning of these two relationships.

### **2.6.3. Behavioral intention to use information (BITUI):**

For three decades, the behavioral intention to use information assessment has been based on a deterministic research perspective to better understand how human behavior is associated with the success or failure of intention to use information. More precisely, the numerous works that it supports are interested in the fact that the behavioral sciences make it possible to grasp certain essential mechanisms and human factors that facilitate the interaction of individuals with information technologies and condition, The performance of the information system. Since the early work of the Minnesota School (Dickson et al., 1977), a great deal of empirical research has been able to develop taxonomic models and organizational factors (organizational structure, process transformation, quality of management, technological culture, ...), functional or group (value and professional culture, satisfaction of users, ...), individual (attitudes, motivation) ,Satisfaction, involvement, participation, etc.) and environmental (political, economic, technological, social and cultural) that can help to isolate barriers and explain the behavior of end-users. The theoretical perspectives of evaluation have multiplied, first with a socio-cognitive view of human-machine interaction, emphasizing individual differences and decision-making technologies, and then with an organizational and strategic vision (Banker and Kauffman, 2004) of information systeme development extended to organizational,Business processes and business strategy.

These perspectives, however, did not lead to the construction of a true meta-model that can be used to explain the use of infortmation technology. The image that emerges from this work today is that of a complex node of contributing factors in a rich theoretical context allowing the use of differentiated theoretical frameworks, according to the intervention strategy required to promote the use of infotmation (Kukafka et al., 2003).

### **2.6.4. Perceived trustworthiness (PT):**

Trust is seen as a highly valuable element of business relationships, as it fosters risk taking in economic transactions (Luhmann, 1988). Solicited in psychology, sociology or socioeconomics, is the notion of trust also relevant in the information sciences.



Depending on Arion et al., (1984) refers to the amount of available knowledge and cues on which to base one's. It is characterized by interdependence and reciprocity, as well as by a certain vulnerability between the partners in the relationship of trust. Have been identified as specific dimensions of the notion of quality of service.

Thus, it seems appropriate to consider the quality of service as a determining factor in the creation of a relationship of trust between the company and its consumer. Numerous studies on the relationship between trust and e-commerce have shown that buying intention is considered confident when sentiment on the seller is reliable. Attributes of the trustee are emphasized in state-oriented approaches; they focus on trust towards a specific interaction partner (McKnight et al., 1998). The link among trust and social interaction between individuals and brands demonstrates a strong emotional approach based on core competencies and values.

### **3. RESEARCH MODEL, HYPOTHESIS:**

The main objective of this thesis is to test the impact of mobile travel applications on the process of travel planning. Adapting the study and analysis by using TAM (technology acceptance model) and IAM (information adoption model). This part of the study collected from theory and hypotheses, based on Davis (1989) study, to show the positive impact of each component, perceived ease of use maintain to have a positive impact on perceived usefulness and behavioral intention to use information, the hypothesis are as follow:

**H1:** Perceived ease of use MTA positively influences the perceived usefulness MTA for travel planning.

Several studies in information systems have investigated the relationship between perceived ease of use and perceived usefulness. Most of this research has shown that perceived ease of use is a history of perceived usefulness (Davis 1989, Szajna 1996, Mathieson 1991, Taylor and Todd, 1995). Szajna (1996) indicates that the relationship between these two variables is significant when adopting information technology. Based on its theoretical contributions, assuming in this research that even perceived usefulness for MTA would be influenced by perceived ease of use.

**H2:** Perceived ease of use of MTA positively influences the behavioral intention to use information from MTA.

Very often using smart phones are cited as barriers to online shopping (Ranganathan and Ganapathy, 2002). Inability to use the Internet, difficult access, complexity of technology and discomfort with the use of computers is barriers to internet adoption (Katz, 1997). Difficulty of use can create an unfavorable attitude towards the use of the internet. Childers et al., (2005) showed that the perceived ease of use is a determinant of the intention toward interactive shopping. Klopping et al., (2004) have shown that ease of use and perceived utility are the first determinants of attitudes toward the use of online stores. In an information system, some research has empirically verified that ease of use is a direct determinant of attitudes.

**H3:** Perceived usefulness of MTA positively influences the behavioral intention to use information from MTA for travel planning.

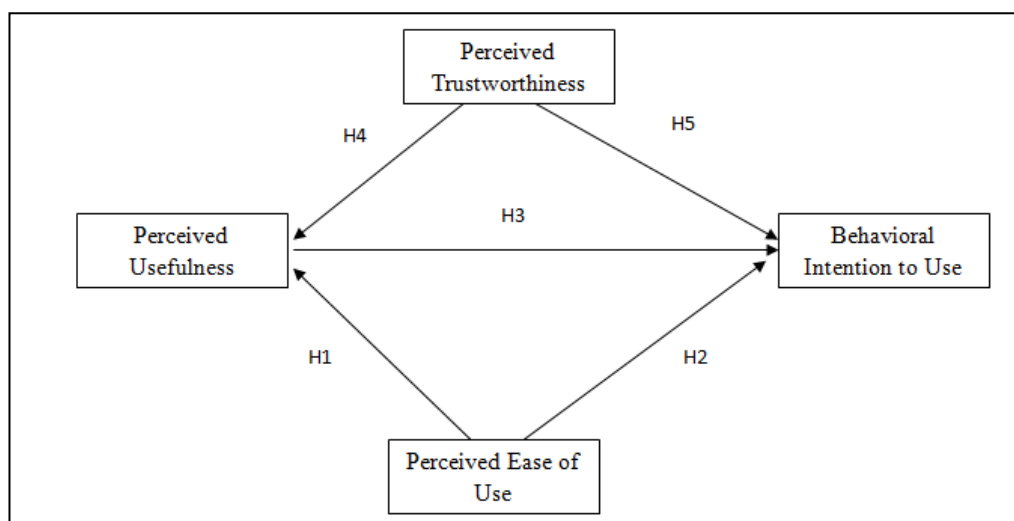
The notion of usefulness refers to that of perceived benefit (Kai-ming and Enderwick, 2000) and positive consequences of behavior (Davis et al., 1989). In consumer behavioral patterns in general, perceived consequences influence behavior either directly or most often through an indirect effect through attitudes (Zarrad & Debabi, 2012).

**H4:** Perceived trustworthiness of MTA positively influence the perceived usefulness of MTA for travel planning.

One of the factors preventing consumers from buying online is the issue of security and privacy (George, 2002). It has been established that trust is a determinant of the attitude towards purchasing via the internet.

**H5:** Perceived trustworthiness of MTA positively influences the behavioral intention to use information from MTA for travel planning.

On the web, trust-based behavior involves sharing personal information, making purchases, or using information provided by the web-site (Mcknight et al., 2002). Some research identifies trust as the factor that stimulates purchases through the Internet. Jarvenpaa and Tracktinsky (1999) show the influence of confidence on purchasing intentions. Kollock (2000) also showed that confidence influences purchasing intentions directly or indirectly through the reduction of perceived risk.



**Figure 3.18:** Proposed model for mobile travel applications

#### **4. METHODOLOGY:**

In order to test the study hypotheses and confront them with reality, a survey-questionnaire was necessary. The choice of the questionnaire was motivated by the very purpose of the research which aims to understand a relatively new phenomenon, how the tourists / travelers use their smart phones to meet the needs in an experiment touristic. In this sense, it seemed that, a survey was the perfect observation mode to the research envisaged in so far as it reveals not the causes but the mechanisms, this study is deducting from TAM (technology acceptance model) theory already exist in literature, but its application in tourism is limited. In consequence to collect a good examination of the impact of Mobile Travel Application on trip planning, performing a survey with sample of travelers who use smart phones (MTA).

The data analyzed by using of SPSS (Statistical Package for the Social Sciences) and Stata (Statistical Software) to build the SEM (Structural Equation Modeling).

##### **4.1. Research Paradigm:**

The short review of paradigms announces in a way the research paradigm that adopted to conduct this research. It concerning how to maintain coherence between the research objectives, the purpose of the research, the research paradigm, and the method and techniques.

Legendre (1993), defines epistemology as "the critical study of knowledge, its foundations, principles, methods, conclusions and the conditions for the eligibility of its propositions". The use of a research method is often the consequence of a methodological and epistemological choice. Piaget (1967), defines epistemology "as a first approximation as the study of the constitution of valid knowledge" (a discipline that makes its object or its project on knowledge).

According to Cohen (1996), epistemology corresponds to a simple critical return of knowledge about itself, its object, its conditions of formation and legitimacy; It is defined as the philosophy of knowledge, the theory of science, or the theory of knowledge. That is because the research uses methodes such as surveys and empirical studies to collect the data.

That is why in this thesis the research part, adopt an experimentation by using structural equation modeling (SEM), to better understand the impact of mobile travel applications in travel planning, with an positively or negatively effect.

#### **4.2. Instrument Design:**

The questionnaire or survey is one of main methods of data collection. It is a method of intended for standardization and facilitating the collection of testimonies to understand and explain the facts. The other two methods most commonly used for interview and observation. If interview and observation are individual and collective methods, the questionnaire is a method that is only collective. It is a quantitative method which applies to set (sample) which must allow statistical inferences. For Scheuren (2004), the questionnaire is a series of standardized questions designed to standardize and facilitate the collection of testimonies.

A previous study was conducted in the same field, the thesis named "*Impact of social travel network on travel planning: The case of Tripadvisor*" by Bashar (2014), who interpreted the relation and the impact between social networks and travel planning using the technology acceptance model (TAM) as a comparison tool.

The scale items and constructs were based in several studies on general marketing literature in tourism and information systems. Perceived ease of use (PEOU) and perceived the usefulness (PU), with 5 items each were used from Davis et al., (1989). Behavioral intention to use information (BITUI), with 5 items, based on Ayeh et al., (2013), Davis et al., (1989) and Venkatesh et al., (2003).The scales for perceived trustworthiness (PT), with 5 items, from research carried out by Ohanian (1990,1991).

The Likert scale can also be used to measure people's attitudes. In answering a question in the Likert questionnaire, respondents indicate their degree of agreement or disagreement on a symmetrical agreement-disagreement scale for a series of statements. Thus, the range captures the intensity of their feelings for a given element. The research confirms that data from Likert elements (and those with similar rating scales) become significantly less accurate when the number of scaling points exceeds five or more. Preston and Colman, (2000).

**Table 4.1:** List of construct and scale items

Scale Items	Source
<b>Factor 1: Perceived ease of use (PEOU)-7 point Likert scale</b>	
Overall ,I find Mobile Travel Application easy to use (PEOU1)	Davis et al. (1989)
It is easy to learn how to use MTA (PEOU2)	Davis et al. (1989)
It is easy to use MTA to find relevant information needed for travel planning (PEOU3)	Davis et al. (1989)
It is easy for me to access Mobile Travel Application (signup,signin,login,setting) (PEOU4)	Davis et al. (1989)
Mobile Travel Application is easy to use to plan my trips (PEOU5)	Davis et al. (1989)
<b>Factor 2: Perceived the usefulness (PU)-7 point Likert scale</b>	
Mobile Travel Application helps me to improve my travel plans (PU1)	Davis et al. (1989)
Mobile Travel Application helps me to plan my trips more efficiently (PU2)	Davis et al. (1989)
Mobile Travel Application make my travel planning easier (PU3)	Davis et al. (1989)
Mobile Travel Application make it easier to reach travel related decisions (PU4)	Davis et al. (1989)
Overall, i find MTA useful for travel planning (PU5)	Davis et al. (1989)
<b>Factor 3: Behavioral intention to use information (BITUI)-7 point Likert scale</b>	
I hesitate to download Mobile Travel Application for travel information (BITUI1)	Ayeh et al., (2013)
I wish to use travel advice from Mobile Travel Application (BITUI2)	Davis et al. (1989)
I expect to use the content of Mobile Travel Application to plan my future trips (BITUI3)	Ayeh et al., (2013)
I make changes to all or parts of my existing travel plans after using the content of MTA (BITUI4)	Ayeh et al. (2013)
I intend to use the content of Mobile Travel Application for my travel planning process (BITUI5)	Venkatesh et al., (2003).
<b>Factor 4: Perceived trustworthiness (PT)-7 point Likert scale</b>	
Travelers who share their experiences on Mobile Travel Apps they are Dependable (PT1)	Ohanian (1990,1991).
Travelers who share their experiences on Mobile Travel Apps they are Honest (PT2)	Ohanian (1990,1991).
Travelers who share their experiences on Mobile Travel Apps they are Reliable (PT3)	Ohanian (1990,1991).
Travelers who share their experiences on Mobile Travel Apps they are Sincere (PT4)	Ohanian (1990,1991).
Travelers who share their experiences on Mobile Travel Apps they are Trustworthy (PT4)	Ohanian (1990,1991).

#### **4.2.1. Online survey:**

A survey in English was published by using Google Form, an online survey was preferred than classic paper one, by saving time and tracking easily the respondent's. As the cost of computer hardware and software continues to decrease, and the popularity of the Internet increases, more segments of society are using the internet for communication and information (Fox et al., 2001; Nie et al., 2002).

With online survey the responses become at the same time as the time differences, giving free, convivial access to the respondents with a better tracking and faster for the organizer. It is now a privileged means for internal surveys carried out on several sites, both at national level and for international structures.

It is also a more targeted and attractive way for professionals in most sectors of activity, who can respond according to their pace and constraints. Online surveys may also save time by allowing researchers to collect data while they work on other tasks (Llieva, Baron & Healey, 2002).

It is in direct competition with the postal system, but for the time being on professional targets or for certain parts of the population only because of the equipment and use of the Internet in private households.

The survey is divided to 3 sections, first part to check if respondents qualify is using smart phones (MTA), if not then they are redirected to the final part used to collect socio-demographic data such as gender, education level, time using internet and their smart phone . The second part of the survey sets out questions to understand the intention to toward using Mobile Travel Applications for their travel planning. Each scale comprehended five questions to collect data for testing hypothesis. Final survey is presented in Appendices.

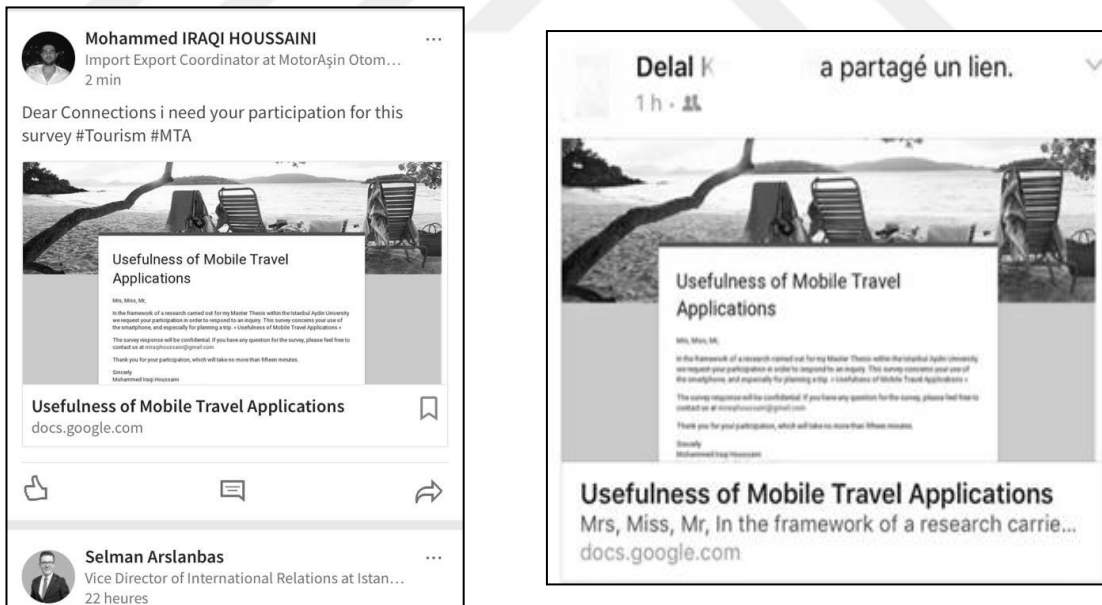
#### **4.3. Sampling and Data Collection:**

It is most often impossible to create an exhaustive database and all individuals of the population. The principle is to select in the population some significant distributional criteria and then try to respect this distribution in the sample of individuals interviewed. Individuals who do not enter quotas are abandoned either at the time of the interview. This is done automatically by the survey software. Survey sampling can be grouped into four broad categories:

- Systematic sampling (also loosely called ‘random sampling’): sample obtained by a random sampling method.
- Convenience sampling: sample without statistical validity, used for an exploratory survey.
- Non-probability sampling: method by criterion on request to an investigator to interrogate people following an imposed itinerary.
- Quotas sampling: sample obtained by requiring investigators to respect certain predetermined proportions (according to different criteria) among the interviewees.

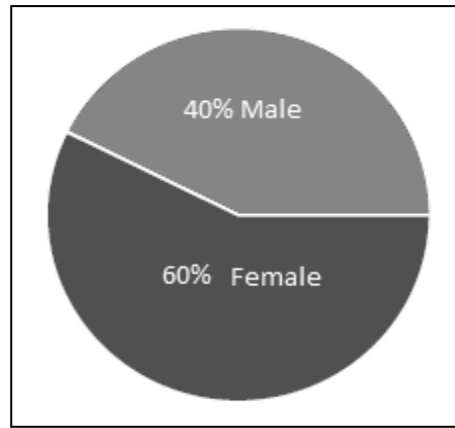
For Fricker, (2008) for example, a web survey may simply be posted on a website where it is left up to those browsing through the site to decide to participate in the survey. This study focuses on travelers who use MTA. To get a good population representative for the survey, the questionnaire was sent to the author social network through Facebook, LinkedIn. The author via the social network could have a perfect presentation of the population, by its diversity, age, gender and location.

The questionnaire did not ask to mention where they were located, the following screen-shots show the publications of the author in the social networks:



**Figure 4.1 & 4.2:** The survey sharing via author social networks pages.





**Figure 4.3:** Gender ratio.

The figure above represents the rate by gender of the author Facebook network. On 822 people 60% identified themselves as female and 40% were identified as male. This ratio of gender represents approximately the ratio of the questionnaire, however this does not explicitly confirm that it is the exact sample of the study, but it gives a similarity to the collected data. The questionnaire was conducted within a one-month period, from January 5 to February 5, 2017. Participants were voluntary to answer questions.

The questionnaire takes between 8 to 10 minutes. Replies were simultaneously recorded through Google forms; a thank-you message was dedicated at the end of the survey to all respondents for their time and effort. A total of the 230 questionnaires sent, 170 people were able to answer correctly and continue the questionnaire until the end, 135 participants were related to the topic by handling a smart phone and using the Mobile Travel Applications, while only 35 respondents does not use MTA.

Once the period ended, all responses were grouped in an excel file and then analyzed by using statistical analysis tools such as SPSS 24.0 (Statistical Package for the Social Sciences). In addition to analyze the multivariate data known as structural equation modeling (SEM) the use of Stata software, was paramount and making modeling easiest with Stata platform.

Structural equation modeling encompasses a broad array of models from linear regression to measurement models to simultaneous equations, is not just an estimation method for a particular model (Kline, 2010). SEM is a class of statistical techniques that allows to test hypothesis about relationships among variables (Acock, 2013).

However, for the benefits of verification of the hypothesis, this study aid to use SEM in its data analysis tests hypothesized patterns of directional and non directional relationships among a set of observed (measured) and unobserved (latent) variables (MacCallum & Austin, 2000).



## 5. DATA ANALYSIS, DISCUSSIONS:

In this section the research results are put together, as mentioned previously the data was analyzed through SPSS 24.0 for windows. The introduction presents the socio-demographic profile of the respondents then the empirical analysis part and hypothesis evaluation. For empirical analysis consist to describe the data with SPSS and to evaluate the hypothesis by using SEM model through Stata.

### 5.1. Socio-demographic Profile:

The data were gathered as mentioned above, to cross the publication of the questionnaire in the social networks of the author especially Facebook and LinkedIn. The result obtained from the participants was divided between the users and the non users of the MTA, but on 170 responses only 35 persons who did not use MTA for planning their trips. Consequently, 135 respondents are considered as MTA users. Therefore, in this research the statics analysis are based on the sample size of n=135.

**Table 5.1:** Summary of socio-demographic profile

		n=170		n=135	
		Frequency	Percent	Frequency	Percent
<b>Do you own a Smartphone and using MTA?</b>	<b>Yes</b>	135	79,4	135	100
	<b>No</b>	35	20,6	0	0
<b>How long have you been using a MTA?</b>	<b>From 1 to 3 years</b>	53	31,2	53	39,3
	<b>From 3 to 6 years</b>	59	34,7	59	43,7
	<b>Less than 1 year</b>	2	1,2	2	1,5
	<b>More than 6 years</b>	21	12,4	21	15,6
<b>Gender:</b>	<b>Female</b>	97	57,1	77	57,0
	<b>Male</b>	73	42,9	58	43,0
<b>Age (years):</b>	<b>21 to 30</b>	90	52,9	69	51,1
	<b>31 to 40</b>	46	27,1	40	29,6
	<b>41 to 50</b>	22	12,9	17	12,6
	<b>51 to 60</b>	4	2,4	4	3,0

	<b>Under 20</b>	8	4,7	5	3,7
<b>Education:</b>	<b>College graduate</b>	81	47,6	66	48,9
	<b>High school</b>	12	7,1	10	7,4
	<b>Post-graduate</b>	59	34,7	46	34,1
	<b>Some college</b>	18	10,6	13	9,6
<b>What is your profession ?</b>	<b>Employee</b>	70	41,2	51	37,8
	<b>Independent</b>	21	12,4	19	14,1
	<b>Intermediate occupation</b>	3	1,8	3	2,2
	<b>Searching for a job</b>	7	4,1	6	4,4
	<b>Senior</b>	26	15,3	22	16,3
	<b>Student</b>	37	21,8	29	21,5
	<b>Unemployed</b>	3	1,8	2	1,5
	<b>Worker</b>	3	1,8	3	2,2
<b>What is your net monthly income (\$)</b>	<b>1400 to 1899</b>	20	11,8	16	11,9
	<b>1900 to 2500</b>	25	14,7	22	16,3
	<b>500 to 899</b>	28	16,5	21	15,6
	<b>900 to 1399</b>	31	18,2	23	17,0
	<b>Less than 500</b>	36	21,2	27	20,0
	<b>Over than 2500</b>	30	17,6	26	19,3
<b>How long you are using Internet</b>	<b>Four to six years</b>	59	34,7	45	33,3
	<b>Less than one year</b>	1	0,6	1	0,7
	<b>More than six years</b>	100	58,8	81	60,0
	<b>One to two years</b>	1	0,6	1	0,7
	<b>Three to four years</b>	9	5,3	7	5,2
<b>Using your smartphone per hours</b>	<b>11–20 hours</b>	43	25,3	32	23,7
	<b>6–10 hours</b>	99	58,2	79	58,5
	<b>Less than one hour</b>	2	1,2	2	1,5
	<b>Over 20 hours</b>	4	2,4	4	3,0

	<b>Two to five hours</b>	22	12,9	18	13,3
<b>On average, how many leisure trips do you make per year?</b>	<b>3 to 4</b>	43	25,3	37	27,4
	<b>5 and mores</b>	31	18,2	28	20,7
	<b>From 1 to 2</b>	74	43,5	56	41,5
	<b>Less than 1</b>	22	12,9	14	10,4

## 5.2. Empirical Analysis:

This section the analysis and computation for only 135 respondents who were identified as MTA users.

### 5.2.1. Sample size for SEM:

Various rules-of-thumb have been advanced including:

- A minimum sample size of 100 or 200 (Boomsma, 1982),
- 5 or 10 observations per estimated parameters (Bentler & Chou, 1987),
- And 10 cases per variable (Nunnally, 1967).

Between 100 and 200 participants the degree of reliability can be considered for a better analysis of data, the sample size 135 is adequate for this research.

**Table 5.2:** Descriptive statistics of the factor constructs

	N	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
		Statistic	Std. Error			Statistic	Std. Error	Statistic	Std. Error
<b><i>Perceived usefulness (PU)</i></b>									
PU1	135	5,35	0,093	1,081	1,169	-0,877	0,209	1,848	0,414
PU2	135	5,18	0,102	1,184	1,401	-0,982	0,209	2,503	0,414
PU3	135	5,33	0,096	1,112	1,236	-0,544	0,209	1,025	0,414
PU4	135	5,33	0,097	1,126	1,269	-0,944	0,209	2,379	0,414
PU5	135	5,45	0,101	1,170	1,369	-1,287	0,209	3,097	0,414
<b><i>Perceived ease of use (PEOU)</i></b>									
PEOU1	135	5,45	0,096	1,118	1,250	-0,968	0,209	2,544	0,414
PEOU2	135	5,36	0,099	1,156	1,335	-0,937	0,209	1,684	0,414
PEOU3	135	5,42	0,097	1,123	1,261	-0,991	0,209	2,337	0,414
PEOU4	135	5,27	0,099	1,155	1,335	-0,702	0,209	1,506	0,414
PEOU5	135	5,29	0,102	1,184	1,401	-0,936	0,209	1,770	0,414
<b><i>Behavioral intention to use information (BITUI)</i></b>									
BITUI1	135	4,081	0,156	1,808	3,269	-0,338	0,209	-0,788	0,414
BITUI2	135	5,059	0,100	1,157	1,340	-0,879	0,209	2,162	0,414
BITUI3	135	5,341	0,084	0,971	0,943	-0,186	0,209	0,083	0,414
BITUI4	135	4,770	0,112	1,304	1,701	-0,384	0,209	0,200	0,414
BITUI5	135	5,304	0,095	1,101	1,213	-0,799	0,209	2,167	0,414
<b><i>Perceived trustworthiness (PT)</i></b>									
PT1	135	4,444	0,102	1,189	1,413	0,053	0,209	-0,107	0,414
PT2	135	4,059	0,111	1,292	1,668	-0,259	0,209	-0,015	0,414
PT3	135	4,319	0,106	1,232	1,517	-0,388	0,209	0,586	0,414
PT4	135	4,156	0,101	1,171	1,371	-0,336	0,209	0,919	0,414
PT5	135	4,281	0,101	1,176	1,383	-0,762	0,209	1,107	0,414

The reliability analysis allows to study the properties of the scales of measurement and of the elements that constitute it. It is used to determine the importance to which the elements of a questionnaire are linked to one another and to provide a general index of the consistency or internal consistency of the scale as a whole. It is appropriate to measure the sampling adequacy by the Kaiser-Meyer-Olkin coefficient (KMO) which evaluates the extent of the psychometric relation of the items.

**Table 5.3:** Kaiser-Meyer-Olkin and Bartlett's test

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,853
Bartlett's Test of Sphericity	Approx. Chi-Square	1426,276
	Df	190
	Sig.	0,000

Nunnally (1978) recommends an Alpha ( $\alpha$ ) greater than 0.6 to decide on the reliability of the measurements. For the scale of measurement, in this study, Alpha equals 0,853. This value is greater than 0.6 indicating that the scale is fairly reliable, and Bartlett's test of sphericity ( $\chi^2$ ) = 1426, 276.

**Table 5.4:** Reliability of constructs

<b>Reliability Statistics</b>		
	N of Items	Cronbach's Alpha
Perceived the usefulness	5	0,880
Perceived ease of use	5	0,883
Behavioral intention to use information	4	0,677
Perceived trustworthiness	5	0,813

The Cronbach alpha is generally used to determine the consistency of the set of questions in a psychological test. The value of the coefficient varying between 0.813 and 0.883, which is excellent, since it exceeds the required minimum threshold of 0.70 (Nunnally, 1978). This tag is arbitrary, but widely accepted by the scientific community. Except for the behavioral intention to use information with slightly near to required minimum with 0.677, without including the item “I hesitate to download Mobile Travel Application for travel information” (BITUI1).

**Table 5.5: Intern items correlation matrix**

	PU1	PU2	PU3	PU4	PU5	PEOU1	PEOU2	PEOU3	PEOU4	PEOU5	BITU11	BITU12	BITU13	BITU14	BITU15	PT1	PT2	PT3	PT4	PT5
(PU1)	1	,669 <sup>**</sup>	,681 <sup>**</sup>	,492 <sup>**</sup>	,453 <sup>**</sup>	,381 <sup>**</sup>	0,127	,253 <sup>**</sup>	0,150	,288 <sup>**</sup>	-0,003	0,115	,284 <sup>**</sup>	,195 <sup>**</sup>	,343 <sup>**</sup>	0,152	0,076	,208	0,098	,269 <sup>**</sup>
(PU2)	,669 <sup>**</sup>	1	,721 <sup>**</sup>	,683 <sup>**</sup>	,545 <sup>**</sup>	,503 <sup>**</sup>	,204 <sup>**</sup>	,409 <sup>**</sup>	,286 <sup>**</sup>	,442 <sup>**</sup>	-0,101	0,074	,349 <sup>**</sup>	,254 <sup>**</sup>	,422 <sup>**</sup>	-0,025	,183 <sup>**</sup>	0,150	,190 <sup>**</sup>	,264 <sup>**</sup>
(PU3)	,681 <sup>**</sup>	,721 <sup>**</sup>	1	,610 <sup>**</sup>	,546 <sup>**</sup>	,445 <sup>**</sup>	,176 <sup>**</sup>	,361 <sup>**</sup>	,279 <sup>**</sup>	,433 <sup>**</sup>	0,054	0,107	,290 <sup>**</sup>	0,093	,321 <sup>**</sup>	0,110	0,122	,245 <sup>**</sup>	0,167	,249 <sup>**</sup>
(PU4)	,492 <sup>**</sup>	,683 <sup>**</sup>	,610 <sup>**</sup>	1	,547 <sup>**</sup>	,448 <sup>**</sup>	,229 <sup>**</sup>	,490 <sup>**</sup>	,210 <sup>**</sup>	,431 <sup>**</sup>	-0,039	0,059	,237 <sup>**</sup>	,271 <sup>**</sup>	,321 <sup>**</sup>	0,028	0,166	0,165	,209 <sup>**</sup>	,222 <sup>**</sup>
(PU5)	,453 <sup>**</sup>	,545 <sup>**</sup>	,546 <sup>**</sup>	,547 <sup>**</sup>	1	,670 <sup>**</sup>	,427 <sup>**</sup>	,638 <sup>**</sup>	,509 <sup>**</sup>	,579 <sup>**</sup>	-0,042	,272	,422 <sup>**</sup>	,293 <sup>**</sup>	,541 <sup>**</sup>	-0,060	0,051	-0,033	0,052	0,135
(PEOU1)	,381 <sup>**</sup>	,503 <sup>**</sup>	,445 <sup>**</sup>	,448 <sup>**</sup>	,670 <sup>**</sup>	1	,429 <sup>**</sup>	,578 <sup>**</sup>	,574 <sup>**</sup>	,639 <sup>**</sup>	-0,059	,262 <sup>**</sup>	,387 <sup>**</sup>	,271 <sup>**</sup>	,548 <sup>**</sup>	-0,068	0,167	-0,019	0,123	,198 <sup>**</sup>
(PEOU2)	0,127	,204 <sup>**</sup>	,176 <sup>**</sup>	,229 <sup>**</sup>	,427 <sup>**</sup>	,429 <sup>**</sup>	1	,660 <sup>**</sup>	,675 <sup>**</sup>	,492 <sup>**</sup>	-0,068	,185 <sup>**</sup>	,244 <sup>**</sup>	,238 <sup>**</sup>	,425 <sup>**</sup>	-0,116	,266	0,103	,201 <sup>**</sup>	0,151
(PEOU3)	,253 <sup>**</sup>	,409 <sup>**</sup>	,361 <sup>**</sup>	,490 <sup>**</sup>	,638 <sup>**</sup>	,578 <sup>**</sup>	,660 <sup>**</sup>	1	,623 <sup>**</sup>	,621 <sup>**</sup>	-0,065	,216	,326 <sup>**</sup>	,373 <sup>**</sup>	,571 <sup>**</sup>	-0,158	,230	0,015	,194 <sup>**</sup>	0,101
(PEOU4)	0,150	,286 <sup>**</sup>	,279 <sup>**</sup>	,210 <sup>**</sup>	,509 <sup>**</sup>	,574 <sup>**</sup>	,675 <sup>**</sup>	,623 <sup>**</sup>	1	,711 <sup>**</sup>	-0,139	,211 <sup>**</sup>	,349 <sup>**</sup>	,250 <sup>**</sup>	,591 <sup>**</sup>	-0,133	,279 <sup>**</sup>	0,122	,316 <sup>**</sup>	,245 <sup>**</sup>
(PEOU5)	,288 <sup>**</sup>	,442 <sup>**</sup>	,433 <sup>**</sup>	,431 <sup>**</sup>	,579 <sup>**</sup>	,639 <sup>**</sup>	,492 <sup>**</sup>	,621 <sup>**</sup>	,711 <sup>**</sup>	1	-0,091	,282	,323 <sup>**</sup>	,333 <sup>**</sup>	,579 <sup>**</sup>	-0,065	,262	0,126	,188 <sup>**</sup>	,177 <sup>**</sup>
(BITU1)	-0,003	-0,101	0,054	-0,039	-0,042	-0,059	-0,068	-0,065	-0,139	-0,091	1	0,137	-2,284 <sup>**</sup>	0,021	-0,147	0,070	-0,092	0,049	0,001	-0,018
(BITU2)	0,115	0,074	0,107	0,059	,272 <sup>**</sup>	,262 <sup>**</sup>	,185 <sup>**</sup>	,216 <sup>**</sup>	,211 <sup>**</sup>	,282 <sup>**</sup>	0,137	1	,327 <sup>**</sup>	,360 <sup>**</sup>	,284 <sup>**</sup>	0,160	,272 <sup>**</sup>	0,128	0,131	0,141
(BITU3)	,284 <sup>**</sup>	,349 <sup>**</sup>	,290 <sup>**</sup>	,237 <sup>**</sup>	,422 <sup>**</sup>	,387 <sup>**</sup>	,244 <sup>**</sup>	,326 <sup>**</sup>	,349 <sup>**</sup>	,323 <sup>**</sup>	-2,284 <sup>**</sup>	,327 <sup>**</sup>	1	,304 <sup>**</sup>	,475 <sup>**</sup>	0,088	,222	0,152	,170 <sup>**</sup>	0,157
(BITU4)	,195 <sup>**</sup>	,254 <sup>**</sup>	0,093	,271 <sup>**</sup>	,293 <sup>**</sup>	,271 <sup>**</sup>	,238 <sup>**</sup>	,373 <sup>**</sup>	,250 <sup>**</sup>	,333 <sup>**</sup>	0,021	,360 <sup>**</sup>	,304 <sup>**</sup>	1	,355 <sup>**</sup>	,172 <sup>**</sup>	,305 <sup>**</sup>	,218 <sup>**</sup>	,268 <sup>**</sup>	,271 <sup>**</sup>
(BITU5)	,343 <sup>**</sup>	,422 <sup>**</sup>	,321 <sup>**</sup>	,321 <sup>**</sup>	,541 <sup>**</sup>	,548 <sup>**</sup>	,425 <sup>**</sup>	,571 <sup>**</sup>	,591 <sup>**</sup>	,579 <sup>**</sup>	-0,147	,284 <sup>**</sup>	,475 <sup>**</sup>	,355 <sup>**</sup>	1	-0,127	,313 <sup>**</sup>	0,115	,223 <sup>**</sup>	,193 <sup>**</sup>
(PT1)	0,152	-0,025	0,110	0,028	-0,060	-0,068	-0,116	-0,158	-0,133	-0,065	0,070	0,160	0,088	,172 <sup>**</sup>	-0,127	1	,270 <sup>**</sup>	,494 <sup>**</sup>	,320 <sup>**</sup>	,262 <sup>**</sup>
(PT2)	0,076	,183 <sup>**</sup>	0,122	0,166	0,051	0,167	,266 <sup>**</sup>	,230 <sup>**</sup>	,279 <sup>**</sup>	,262 <sup>**</sup>	-0,092	,272	,222 <sup>**</sup>	,305 <sup>**</sup>	,313 <sup>**</sup>	,270 <sup>**</sup>	1	,551 <sup>**</sup>	,556 <sup>**</sup>	,402 <sup>**</sup>
(PT3)	,208 <sup>**</sup>	0,150	,245 <sup>**</sup>	0,165	-0,033	-0,019	0,103	0,015	0,122	0,126	0,049	0,128	0,152	,218 <sup>**</sup>	0,115	,494 <sup>**</sup>	,551 <sup>**</sup>	1	,591 <sup>**</sup>	,525 <sup>**</sup>
(PT4)	0,098	,190 <sup>**</sup>	0,167	,209 <sup>**</sup>	0,052	0,123	,201 <sup>**</sup>	,194 <sup>**</sup>	,316 <sup>**</sup>	,188 <sup>**</sup>	0,001	0,131	,170 <sup>**</sup>	,268 <sup>**</sup>	,223 <sup>**</sup>	,320 <sup>**</sup>	,556 <sup>**</sup>	,591 <sup>**</sup>	1	,694 <sup>**</sup>
(PT5)	,269 <sup>**</sup>	,264 <sup>**</sup>	,249 <sup>**</sup>	,222 <sup>**</sup>	0,135	,198 <sup>**</sup>	0,151	0,101	,245 <sup>**</sup>	,177 <sup>**</sup>	-0,018	0,141	0,157	,271 <sup>**</sup>	,193 <sup>**</sup>	,262 <sup>**</sup>	,402 <sup>**</sup>	,525 <sup>**</sup>	,694 <sup>**</sup>	1

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).



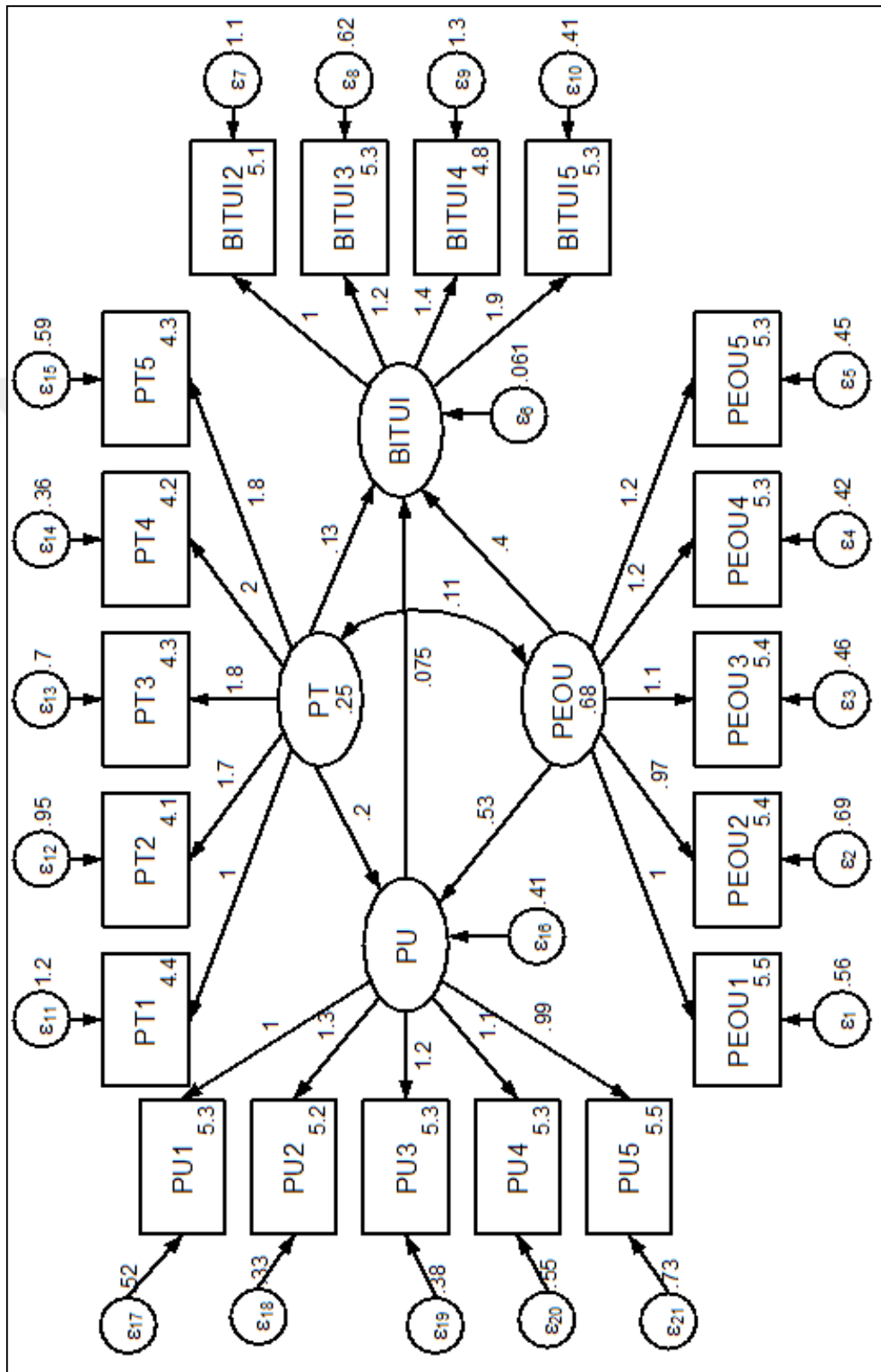


Figure 5.1: Structural Equation Model

**Table 5.6:** Summary of results of hypothesis testing using SEM

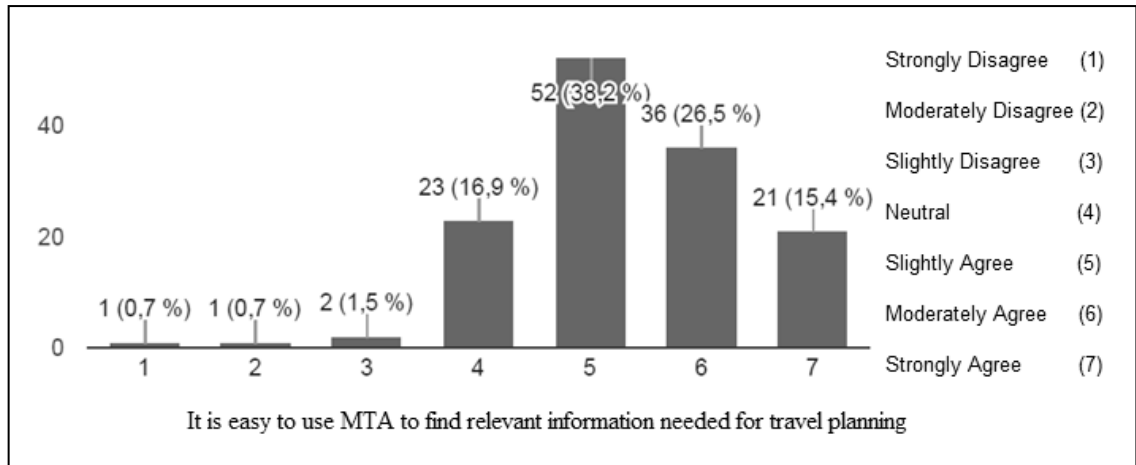
	Hypothesized Relationship	Standardized Estimate $\beta$	C.R	P value	Interpretation
H1	PU $\square$ PEOU	0.530	5.340	0.000***	Significant
H2	BITUI $\square$ PEOU	0.400	3.770	0.000***	Significant
H3	BITUI $\square$ PU	0.075	1.220	0.221	Non-significant
H4	PU $\square$ PT	0.200	1.340	0.180	Non-significant
H5	BITUI $\square$ PT	0.897	1.470	0.141	Non-significant

*Note*\*\*\*.Correlation is significant at the level  $p < .001$ , Perceived usefulness (PU), Perceived ease of use (PEOU),Behavioral intention to use information (BITUI), Critical Ratio (C.R) also known as t value (Data Analyzed with z test) scale:  $< -1,65$  or  $> +1,65$  ( $< 0,10$ );  $< -1,96$  or  $> +1,96$  ( $< 0,05$ );  $< -2,58$  or  $> +2,58$  ( $< 0,01$ ).

### 5.2.2. Analysis of perceived ease of use:

*H1: Perceived ease of using of MTA positively influences the perceived usefulness MTA for travel planning.* The null hypothesis is rejected as Standardized Estimate ( $\beta$ ) = 0.530 at p value  $< .001$ . In a previous study the null hypothesis was rejected, the perceived ease of use has significant difference for the usefulness of MTA for travel planning; these findings are similar to the earlier research, for MTA users the ease for using application influence positively their perception for application utility, in fact other factor can explain the acceptance of users who finds things ease to use are not necessary predisposed to use them, downloading and using mobile application is easy that making user more prone to use them, with simplicity and comprehensible functions.

*H2: Perceived ease of using of MTA positively influences the behavioral Intention to Use Information from MTA.* The null hypothesis is rejected as Standardized Estimate ( $\beta$ ) = 0.400 at p value  $< .001$ . In a previous study the null hypothesis rejected, these results are comparable to the findings of Davis (1989); Xu et al., (2010); Ayeh et al., (2013), the perceived ease of use has significant difference for the behavioral to use the information from MTA; these findings are similar to other that the influence got positive value that, it can be explained by the type of information the users are seeking for, when user check for a destination, hotel or room, from MTA the first reaction goes to comments, travelers experiences, rank and notation.



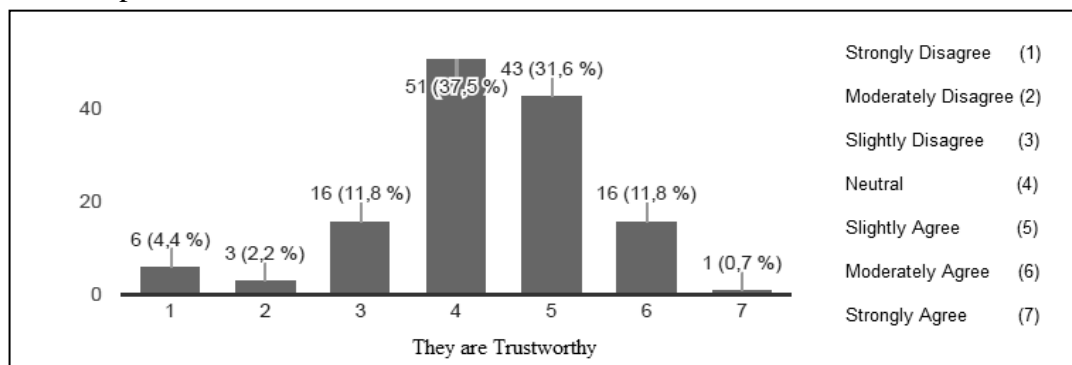
**Figure 5.2:** Differences in opinion- Perceived ease of use

**5.2.3. Analysis of perceived usefulness:**

*H3: Perceived usefulness of MTA positively influences the behavioral Intention to Use Information from MTA for travel planning.* The null hypothesis is not rejected as Standardized Estimate ( $\beta$ ) = 0.075 at p value < 0.221. There is no significant difference in the population at the risk for the groups compared. It can be deduced that once a user considers MTA to be useful he is more willing to use the information provided on the applications to help their travel plans.

**5.2.4. Analysis of perceived trustworthiness:**

*H4: Perceived trustworthiness of MTA positively influences the perceived usefulness of MTA for travel planning.* The null hypothesis is not rejected as Standardized Estimate ( $\beta$ ) = 0.200 at p value < 0.180. The results can be due to the neutrality of the respondents due to their past experiences, and the trust is one of the components that can push the user to perceive the usefulness of MTA. *H5: Perceived trustworthiness of MTA positively influence the behavioral intention to Use Information from MTA for travel planning.* The null hypothesis is not rejected as Standardized Estimate ( $\beta$ ) = 0.130 at p value < 0.141.



**Figure 5.3:** Differences in opinion- Perceived trustworthiness.

## **6. CONTRIBUTIONS, LIMITATIONS AND RECOMMENDATIONS:**

After completing the research part, this chapter will respond on the expected contributions since the beginning.

### **6.1. Contributions to Theory and Practice:**

Until recently, the adoption of ICT was not very accessible because of its cost. The development of a mobile application is difficult. From now on, the evolution of technologies makes it possible to give access to the information to a greater number of users.

The acceptance of a new technology no longer seems to pose technical problems but still cognitive. A user who sees himself advancing in the use of technologies easily adapts to one who consider technology as a fashion effect. Some extension to the TAM model to better explain the appropriation of IT by the users, through various researches the model TAM could be confirmed in the sector of tourism by the perception of usefulness and the perception of ease of use. The cognitive dimension shows that it provides elements to be analyzed, but in a limited way.

This study defines what a MTA is, as a new term recently used also by Douglas et al., (2017), to clear the definition the previous studies were just mentioning the ICT or IT and mobile services without focusing in the right term as an applications, this research helps the future studies to clearly understand MTA. Secondly these studies for the first time combine with technology acceptance model and m-commerce in tourism industry. Finally this research paper proof that perceived ease of use has a significant impact on behavioral to intention use the information, this study proves also that SEM (structural equation modeling) is useful in studying the MTAs and their impact on the users even though the correlation results has a non-significant relation.

## **6.2. Limitations and Recommendations:**

Alongside contributions, the research has some limitations. The limits are related to the size of the sample and the validity of the scales. To reduce the limits and improve the knowledge for future researches.

Because of the small size of the sample carrying out the exploratory factor analysis was not necessary. This analysis makes it possible to demonstrate a latent structure through so-called latent variables, or factors. It then allows to have better results in the confirmatory factor analyzes that validate the model and the hypotheses of research. In addition, an exploratory factor analysis would have made usable the indicators eliminated in the studies, by a new scale or a new relationship.

At the end this sample sets the limit of validity of the search. The validity of a research suggests that the results on a sample can be representative of the population as a whole. With a sample of 170 respondents, it is difficult to ensure that the result will be representative of the user population of MTAs.

The questionnaire was valid for a period of only one month, another limit in this research; the questionnaire was valid in English only, for future studies the questionnaire could be translated into several languages for a response facility. The type of question used, had no relation with a specific mobile travel application such as Booking.com, Hotels.com, eDreams applications.

Moreover, the study is quantitative, including structural equation modeling to analyze the validity of hypotheses, while for the next research it will be more beneficial to incorporate a quantitative and qualitative approach.

## **7. CONCLUSION:**

The Research on the acceptance of mobile travel applications, led to the formulation of an original conceptual model for this research. The aim of this study was to show the impact of the MTA on travel planning and the perceive for each variable, with the application of the theories such as TAM by Davis (1989), and IAM by Sussman & Siegal (2003). Combining the findings of previous work, it contributes, in part, to strengthening the results of the theories of the technology acceptance model. The results of the empirical study show that TAM can be considered as a valid tool for studying the factors that determine and influence the use of technology in the tourism industry, and more specifically the interaction of the consumer with the mobile application services. The concepts and variables chosen to the acceptance model of MTA are part of the most relevant concepts to explain the perceived of the ease of use, perceived usefulness, perceived trustworthiness and behavioral intention to use information of the respondents.

Without questioning the results obtained, the present work contains certain limits as mentioned previously. First, by conducting a survey of different users from different regions, and with an English survey as a foreign language in various countries. This characteristic of the sample certainly reduces the possibility of generalizing the conclusions drawn. Finally, without including participant demographic information in the analysis. In other words, socio-cultural elements have not been taken into account in the present work.

Nevertheless, the model developed cannot claim to take account of all the possible determinants of the use of IT and also of the performance following the use, but only those that fall within the theoretical framework of this research and especially those compatible with mobile applications. This research can be a starting point for PhD thesis, in order to better develop and detail this topic.

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## **APPENDICES**



**QUESTIONNAIRE SURVEY:**

Mrs., Miss, Mr.

In the framework of a research carried out for my Master Thesis within the Istanbul Aydin University we request your participation in order to respond to an inquiry. This survey concerns your use of the Smartphone, and especially for travel planning.

The survey response will be confidential. If you have any question for the survey, please feel free to contact us at [miraqihoussaini@gmail.com](mailto:miraqihoussaini@gmail.com)

Thank you for your participation, which will take no more than ten minutes.

Sincerely  
 Mohammed Iraqi Houssaini  
 Supervisor Ast.Prof.Dr.Burcin KAPLAN

Do you own a Smartphone, and using MTA? (If not, please answer on socio-demographic part)

Yes

No

How long have you been using a Smartphone?

Less than 1 year

From 1 to 3 years

From 3 to 6 years

More than 6 years

*If you do not have an opinion please select « Neutral »*

	Strongly Disagree (1)	Moderately Disagree (2)	Slightly Disagree (3)	Neutral (4)	Slightly Agree (5)	Moderately Agree (6)	Strongly Agree (7)
Mobile Travel Application helps me to improve my travel plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mobile Travel Application Helps me to plan my trips more efficiently	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobile Travel Application Make my travel planning easier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobile Travel Application Make it easier to reach travel related decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall i find Mobile Travel Application useful for travel planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easy to learn how to use Mobile Travel Application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easy to use Mobile Travel Application to find relevant information needed for travel planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easy for me to access Mobile Travel Application (signup,signin,login,setting)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mobile Travel Application is easy to use to plan my trips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall ,I find Mobile Travel Application easy to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I wish to use travel advice from Mobile Travel Application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I expect to use the content of Mobile Travel Application to plan my future trips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make changes to all or parts of my existing travel plans after using the content of Mobile Travel Application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I intend to use the content of Mobile Travel Application for my travel planning process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**The following questions they are about Trust in Mobile Travel Application**

**How do you feel about travelers who share their experiences?**

They are Dependable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
They are Honest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
They are Reliable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
They are Sincere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
They are Trustworthy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Socio-demographic:

To finish. Please tell us a little about yourself by marking the appropriate box.

Gender:

Female       Male

Age (years) :

Under 20	<input type="checkbox"/>
21 to 30	<input type="checkbox"/>
31 to 40	<input type="checkbox"/>
41 to 50	<input type="checkbox"/>
51 to 60	<input type="checkbox"/>
Over 60	<input type="checkbox"/>

Education :

None	<input type="checkbox"/>
High school	<input type="checkbox"/>
Some college	<input type="checkbox"/>
College graduate	<input type="checkbox"/>
Post-graduate	<input type="checkbox"/>

What is your profession?

- Independent
- Senior
- Intermediate occupation
- Employee
- Worker
- Unemployed
- Retirement
- Student
- Searching for a job

What is your net monthly income (\$)

- Less than 500
- 500 to 899
- 900 to 1399
- 1400 to 1899
- 1900 to 2500
- Over than 2500

How long using the Internet

- Less than one year
- One to two years
- Three to four years
- Four to six years
- More than six years

Using your Smartphone per hours

- Less than one hour
- Two to five hours
- 6–10 hours
- 11–20 hours
- Over 20 hours

Which Mobile Travel Apps are you using more often?

- Booking.com
- TripAdvisor
- Hotels.com
- eDreams
- Skyscanner
- Airbnb
- Others :

.....

On average, how many leisure trips do you make per year?

- Less than 1
- from 1 to 2
- 3 to 4
- 5 and more

Except the Smartphone, which other device (s) did you use to plan your trip?  
(many Choices)

- Laptop
- Touch pad (iPad , Galaxy tab, etc.)
- Global Positioning System (GPS)
- None

Thank you for participation. If you want to know the results of this search, do not hesitate to leave us your e-mail address below.



Evrak Tarih ve Sayısı: 24/04/2017-2478



T.C.  
İSTANBUL AYDIN ÜNİVERSİTESİ REKTÖRLÜĞÜ  
Sosyal Bilimler Enstitüsü Müdürlüğü

Sayı : 88083623-044-2478  
Konu : Mohammed IRAQI HOUSSAIN'ın Etik  
Onay Hk.

24/04/2017

Sayın Mohammed IRAQI HOUSSAINI

Enstitümüz Y1412.130043 numaralı İşletme Anabilim Dalı İşletme Yönetimi Tezli Yüksek Lisans programı öğrencilerinden Mohammed IRAQI HOUSSAIN'ın "THE USE OF MOBILE TRAVEL APPLICATIONS: A RESEARCH WITH TECHNOLOGY ACCEPTANCE MODEL" adlı tez çalışması gereği "Usefulness of Mobile Travel Applications" ile ilgili ölçeği 06.04.2017 tarih ve 2017/07 sayılı İstanbul Aydın Üniversitesi Etik Komisyon Kararı ile etik olarak uygun olduğuna karar verilmiştir.

Bilgilerinize rica ederim.

Prof. Dr. Özgür KAYBERGİLU  
Müdür

Evrakın Değerlendirilmesi İçin : <http://evraklogrulu.aydin.edu.tr/en/Visioe/Dogrulu/BelgeDegrulamasi.aspx?V=98LCA7DU>

Adres: Beyoğlu Mah. İstiklal Cad. No:38 Saklıköy , 34295 Kısıklıcağzısı / İSTANBUL  
Telefon: 444 1 428  
Elektronik Ağı: <http://www.aydin.edu.tr/>

Bilgi için: NESLEHAN KUBAL  
Uzvan: Etilik Sekreteri



## RESUME



Mohammed IRAQI HOUSSAINI  
Place and Date of Birth: Fez, 20/01/1992  
Single  
Linkedin: [www.linkedin.com/in/mohammediraqihoussaini](http://www.linkedin.com/in/mohammediraqihoussaini)  
E-Mail: [miraqihoussaini@gmail.com](mailto:miraqihoussaini@gmail.com)

### Education:

2014-2017 **MBA Business Administration:**  
*Istanbul Aydin University, Istanbul-Turkey,*

2013-2014 **1st year of Master's Degree in Entrepreneurship B pass:**  
*HEC Business school, Fez-Morocco,*

2011-2012 **Bachelor Degree in International Management B pass:**  
*University Sidi Mohamed Ben Abdellah, Fez-Morocco*

2009-2011 **Associate in Technical Sales and Loyalty customers, B pass:**

2008-2009 **High school diploma (baccalaureate):**  
Economic Section

### Professional Experiences:

January 2017- Currently

**Regional Export Manager Europe & Africa**  
*ELSO Kimya San. Tic. A.Ş Istanbul-Turkey*

September 2015 to December 2016

**Import / Export representative,**  
*MotorAşın Otomotiv Bilg. San. Tic. A.Ş Istanbul-Turkey*

April 2014 to July 2014

**Junior Event manager,**  
*Hotel les Merinides 5\* Fez –Morocco*

September 2012 to June 2013

**Customer advisor,**  
Webhelp Fez –Morocco

May-June 2010

**Junior Distribution dispatcher,**  
North Africa Bottling Company Coca Cola, Fez – Morocco

**Languages & Other:**

French Fluent Turkish Intermediate

English Fluent Arabic Fluent

Spanish Intermediate

MS Office: Excel, Powerpoint, Word, Publisher.

Softwares : SAP (CRM), PGI/ERP, Logo (Tiger)

Ps, C#, Google SEO.

**Extraprofessionals Activities**

Member of an international association  
AIESSEC in External  
Relations department,

**Personality**

Sociable, Versatility, Ease of contact, Strong  
personality, realistic.  
Creative, organize, discipline, dynamic  
Integrate good communication skills and  
great interpersonal relation.