Investigating the Barriers to Technology Adoption in Hotel Sector: The Case of Mashhad/Iran

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ABSTRACT

Nowadays, tourism and hospitality industry are growing globally; countries around the world capitalizing on tourism and hospitality for economic growth and development. However, tourism sector is also evolving as technological change is compelling industries to adapt to new methods of management and applying technology to overcome the challenges of competition, marketing, and cost reduction. The usage of technology helps to improve the service quality, customer satisfaction and increase revenues. The aim of this study is to explore the level of technology application in accommodation sector in Mashhad/Iran with a focus on five- and four-star hotels. The study is also aimed to explore the challenges that these hotels are experiencing as well as their policies to overcome these challenges. This research is also intended to investigate the barriers to technology adoption, and awareness of the hotel managers of the benefits of innovative ideas. A qualitative method is applied in this research, and data collection completed through an in-depth interview with the managers of the sampled hotels based on semi- structured interview questions. Fourteen general managers in five and four stars hotels were involved in this study. Study revealed that there are various barriers to technology adoption; however, the main barrier is the sanctions that is imposed on Iran. Study also revealed that the managers are eager and aware of benefits of new technology; however, accessing them is expensive and almost impossible. Implications and limitations of the study is also explained.

Keywords: Technology Adoption, Hotel Sector, Barriers, City of Mashhad/ Iran.

ÖZ

Günümüzde, dünyadaki ekonomik büyüme ve kalkınma için turizm ve konukseverlikten yararlanan ülkelerde turizm ve konaklama endüstrisi küresel olarak büyümektedir. Bunun birlikte, teknolojik değişim endüstrileri yeni yönetim yöntemlerine adapte olmaya ve rekabet, pazarlama ve maliyet azaltma zorluklarının üstesinden gelmek için teknolojiyi uygulamaya zorladığından turizm sektörü de gelişmekte ve teknoloji kullanımı, hizmet kalitesi ile müşteri memnuniyetini ve gelirleri artırmaya yardımcı olmaktadır. Bu çalışmanın amacı beş ve dört yıldızlı otellere odaklanarak Meşhed, İran'da konaklama sektöründeki teknoloji uygulama düzeyini araştırmaktır. Çalışma aynı zamanda bu otellerin yaşadığı zorlukları ve bu zorlukların üstesinden gelmek için politikalarını ve aynı zamanda teknolojinin benimsenmesinin önündeki engelleri ve otel yöneticilerinin yenilikçi fikirlerin yararları konusundaki farkındalıklarını araştırmayı amaçlamaktadır. Araştırmada nitel bir yöntem uygulanmış ve örneklenen otellerin yöneticileri ile yarı yapılandırılmış görüşme sorularına dayalı derinlemesine görüşme yoluyla veri toplama işlemi tamamlanmıştır. Beş ve dört yıldızlı otellerde 14 genel müdür bu çalışmaya dahil edilmiştir. Araştırma, teknolojinin benimsenmesinde çeşitli engeller olduğunu ortaya koymuştur; ancak asıl engel İran'a uygulanan yaptırımlardır. Çalışma ayrıca yöneticilerin yeni teknolojinin faydaları konusunda istekli ve farkında olduklarını; ancak bunlara erişimin pahalı ve neredeyse imkansız olduğunu bildiğini ortaya koymaktadır. Araştırma sonuçları ve sınırlamaları da çalışma sonunda açıklanmıştır.

Anahtar Kelimeler: Teknoloji Benimseme, Otelcilik Sektörü, Engeller, Meşhed Şehri, İran.

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Chapter 1

INTRODUCTION

1.1 Overview

Nowadays the hospitality industry is growing worldwide. It creates a wide range of superb opportunities in various companies, which has interpreted into significance of hospitality industry. Lately, the collaboration between tourism industry and technology has initiated essential changes in this industry globally (Hua, 2016; Leung and Law, 2013; Law et al., 2015; Porter, 2001; Xin et al., 2014). The growth of technology has been accountable significantly in the evolution of tourism industry.

Technology has a significance role for hospitality industries to improve their strategic competitiveness and organizational performance (Nyheim et al., 2004; O'Connor, 1999; Siguaw et al., 2000). As Nyheim et al (2004) stated, globally, there is a developing use of technology in increasing a hospitality industry's competitive advantage, and so contributing to the successfulness of industry.

As Dev et al. (2010), stated many years ago (1960s) companies just concentrated on progress, (1970s) production growth and marketing investigation, (1980s) income controlling, however today managers focus on technologies and internet which can enhance the social practices such as : communication between different customers (Morosan et al., 2014).

The hotel industries in order to get competitive advantage must try to adopt new technologies, which is very important for the business (Belgian et al., 2011; Buhalis and Law, 2008; Ozturk et al., 2012; Pereira-Moliner et al., 2016). As Berne et al (2012) stated if they wish to survive in a competitive market, tourism industries are required to satisfy quickly the customers' requests regards to services and productions.

The development in the way to use of technology, availability of information and globalization have accelerated the changes today (Ulrich, 1998). Moreover, growth and variations in technology are still happening in hotel industries (Buhalis & Law, 2008). There is an agreement among scholars that technology is highly significant for the hotel industry as it helps them improves the services and policies for their guests. Technology helps to enhance the profits, revenues, and creates opportunities for hotel industry (Inversini and Masiero, 2014; Kucukusta et al., 2015; Law and Jogaratnam, 2005; Law et al., 2014; Piccoli, 2008; Ryan, 2015).

As Walker (2010), stated that recently the hospitality industry has been significantly influenced by technology, also the utilization of technologies and computers will grow generally. Moreover, the perfection of technology has created many comforts for customers in hotel rooms, due to excessive facilities in hotel premises. The utilization of technologies is very significant, in fact technology became a marketing tool for updating the achievements of a company. Marketers are trying to use profits to avail the opportunities in hospitality industry by making investments.

As Abou-Shouk et al (2013) stated that the trend of using internet and technology is increasing among the shareholders in hospitality industry, which contains the hotels and travel companies. According to (Andreau et al., 2010; Kumar and Becerra Fernandez, 2007; Wu et al., 2007) scholars having knowledge about tourism and the staff are discovering the profits of using technology and the internet as a significant information instrument based on innovation.

As Carroll Boger (1995) the usage of technology and internet have increased rapidly in Iran. Iran's internet connection has been built by diligence of some computer engineer with cost of 50,000 dollars in software and hardware and with the collaboration of foreigner companies.

The hospitality industry counts on technology and information in order to ameliorate staff's proficiency and productivity, and to satisfy the customers (Lam, Cho, & Qu, 2007). However general managers also noticed the value of technology in their business, like information technology which can confront some significant barriers.

Although the establishment of technology may be expensive (Sigala, 2005), and such activities can be the main consequences for the operations of hotel (Law et al., 2013) director's attitudes and consciousness also restrict the use of technology innovation in hotels. To prevent this, general managers and other employees of hotels should be aware and educated enough about controlling the modifications, recognizing the barriers and defeating these barriers to technology in hotel industry (Huda and Hussin, 2010; Yeh et al., 2005).

The academician and employees are informed about the advantages of technology for the hotels. But, the idea of investing in technology may face some barriers from hotel's customers, staff, financial department and directors. As Cooper and Zmud (1990), declared the considerable problems mostly obstruct the performance of technology and it decreases the capability of industries to receive benefits from technologies.

Several studies indicated that there would be three agents, could create barriers to adopt technologies which include: absence of enough time to adopt and learning the new technologies, absence of governmental help, and absence of financial resources (Carnall,1995; Okumus, 2001; Okumus and Hemmington, 1998a; Overholt et al., 1994; Hernández-Mogollon et al., 2010; Risquez and Moore, 2013). Fast growth in technologies presented some opportunities for the companies that were not available to them before (Kuruppuarachchi et al, (2002). In regard to growth difficulties, businesses, the staff, and the directors face with some major challenges to convert the companies into automation companies.

Generally, barriers can be categorized into three categories that include organization, individual and social. Thus, the barriers must be recognized, and policies need to be implemented to overcome these barriers (Cheater et al. 2005). As Cooper (1999) declared, the investigations showed that failing to surpass technological performance barriers would result in the downfall of a company. Although there has been various researches regarding management technological barriers in several contexts such as (Heung, 2003) electronic commerce and (Garg et al., 2015) superior training, but in the case of tourism and hospitality also specifically hotels there is a shortage of research.

As Buhalis (1997) stated, since technology has been incorporated by tourism, the tourism industry has offered profit and became more competitive. In fact, there is a shortage of scholarly research on topic of barriers to technology adoption in the case of Mashhad, which is one of the main destinations for tourists in Iran. There is not any study on this topic so far; therefore, this study is an attempt to fill this void.

1.2 Objectives of Study

The general objective of this research is to investigate the barriers faced by four- and five-stars hotels in Mashhad in regard to adoption of technology. Therefore, this research is meant to help in attaining following objectives:

- To identify the problems to technology adoption in deluxe hotels in Mashhad.
- To explore the benefits of technologies that managers adopted in their hotels.
- To identify the ways which remove the barriers to technology.

1.3 Research Questions

This study attempted to respond to these following questions:

- What are the barriers of technology adoption in deluxe hotels in Mashhad?
- What are the possible benefits of technology adoption in deluxe hotels in Mashhad?

1.4 Significance of Study

The outcome of this study may help the tourism industry in Mashhad, to recognize the barriers to technology adoption, therefore, these attempts can be made to reduce barriers in hotels of Mashhad, located in Iran. Furthermore, this study may be useful for hotel industries, as it offers essential information to managers while deciding the domains that technology must be adopted, like F&B section, rooms sections, in order to improve hotel efficiency. Moreover, this research will afford enough information

about type of technologies and various kinds of barriers, which exist in hotels in Mashhad.

1.5 Scope of the Research

In this study the contributors will be the general managers of seven five-stars and seven four-star hotels in Mashhad. Also, it should be mentioned that in this study, there is no restriction for the age of contributors, and both men and women will be selected as the topic of this study.

Chapter 2

LITERATURE REVIEW

2.1 Tourism: An Overview

According to world tourism organization (WTO) in 1991:

> "Tourism contain the activities of people travel and stay outside their current location for less than successive one year for business, leisure and other objectives."

As Davis (2003), stated probably tourism industry has begun in period of Roman Empire. In fact, in order to access easily to occupied states Roman military prepared some roads. Travelers utilized these paths and stayed in accommodations which have been built in paths. However, these types of tourism discontinued after the extinction of Roman Empire.

The idea of grand tour first begun by young rich English people in 17th century, the tourists went to France and other countries by crossing the English Channel. According to (Davis, 2003), the concept of grand tour was significant section of education, but the rich people only could have these experiences. As Davies, (2003), stated in 18th century the face of tourism has changed, it was possible for all people to travel. Many years later travel has become easier and quicker for all people. Between 1820 and 1830, the existence of train was very effective for tourism industry. As cities developed people's demands to travel increased as well. It should be mentioned that with the help of inventions such as airplane, train, automobile and photography, the tourism industry has been improved a lot (Davies, 2003).

As Davies (2003), in 20th century, the income level of people developed, and in 2000, tourism changed and became cheaper and easier. So, these years, people could travel more.

Nowadays tourism industry provides many job opportunities, also according (Simon, 2012), conserving environment against damages which caused by human, is noticed as an essential duty of tourism industry. It should be mentioned that, industrial revolution, urbanization, new facilities and technologies are the important agents which have been resulted to tourism development (Holloway, 1998).

2.2 Accommodation Sector

Hotel is defined as an organization with more than five bedrooms which is recognized as breakfast and bed establishment. According to (Holloway, 1998) the generally, almost 1.2 million beds with 44% rate of occupancy have been evaluated in hotels around the world. as Holloway (1998) stated, for tourists beside the facilities that accommodations offer, the quality and services of accommodations are important factor, for example, leisure tourists demand accommodations close to recreational areas or business tourists demand accommodations that are settled in big cities. In fact different tourists require different type of accommodations. According to (Holloway, 1998), classification refers to sort of accommodations, categorization is according to physical specifications and grading is according to the services that are provided. It should be mentioned that several counties have different standards to categorize the accommodations, for instance, casino and alcoholic drinks are not allowed in Islamic countries. Every accommodations and hotels have five features: facilities, services, image and location. The location of hotel is very significance for guests to select the hotel. These features indicate a competitive marketplace for hotel industries, which are

divided the marketplace to several parts. According to (Holloway, 1998), based on location and services, hotels have several kinds of tourists, so hotels have very important role for customers not only a simply room to sleep. As stated before, based on different demands of people there are different kind of accommodations which are included: domestic holiday hotels, chain hotels, holiday village and educational accommodations that are several sorts of tourism.

2.3 Theoretical Framework

Three frameworks are used in this study which can help to explain the barriers to technology adoption. According to (Roger1995), innovation adoption model is series of stages towards the continuing usage of innovation. This procedure contains two stages: implementation and initiation. The stage of initiation starts with the set of the planning activities and diversity of data which defend the adoption of innovation. According to (Fichman, 2000), in the first stage of the procedure, the need of innovation is recognized and prioritized because of organizational problems.

In the implementation stage, specifying that innovation should be adopted or not. In this step, administrators may search several systems of management from several sellers, their expenses and etc. In fact, if the organization make decision to invest for innovation, the investment is ratified, and the operation starts.

The other framework which used in this study is barriers to innovation. This model indicates that the firm's purpose to accept technology is affected by many agents. According (Paré and Trudel, 2008), these factors contain the expense of the intended innovation, the technology adaptability with available systems, user friendliness and its adjustment with the structure of organization.

Technology acceptance model (TAM) is one of the most important factors in technology researches. Dvais (1989) created this model, which is based on the theory of trpractice. As Teo et al (2009) expressed this model focuses on the subject of how technology is adopted and applied by users.

According to (Davis & Venkatesh, 1996) the scholars and practitioners apply this model to explain and forecast the adoption of technologies by users and according to (Yuanquan et al., 2008), it is a major factor in technology investigations. The technology acceptance model contains two important elements: ease of usage of the technology and the comprehended efficiency by users (Legris, Ingham, & Collerette, 2003).

According to (Noor, Hashim, Haron & Aiffin, 2005) also the technology acceptance model can be applied to figure out the tourist's usage of technology in the process of decision making in the trip. Recently studies purpose that the usage of technology in elevating tourism productions creates a real experience for tourists which affect the purposes of travelers (Chen & Schwartz, 2008; Morosan & Jeong, 2008; Kim, Kim & Shin, 2009; Huang, Backman, Backman & Moore, 2013).
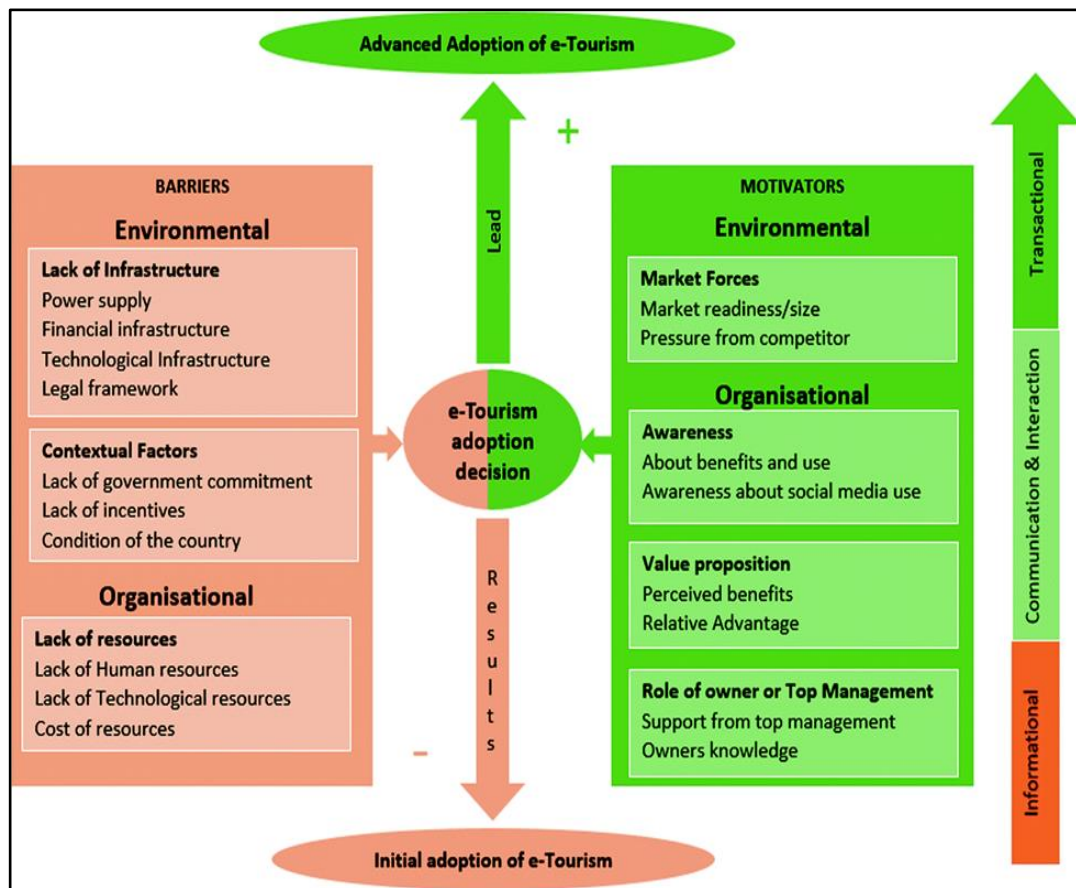
Figure 1: Advanced Adoption of e-Tourism Framework

2.4 Development of Technology

According to (Buhalis, 1999; Wahab and Cooper, 2001) technology has a significant role in expanding innovations and new opinions. Previous researches showed that, the development and competencies of technology are important factors in an organization's competitiveness and innovation (Hjalager, 2006; Dibrell et al., 2010; Huang, 2011; Rittera and Gemunden, 2004).

According Huang (2011), a company's technology competence has great relation with innovativeness of operations. Furthermore, Huang (2011) identified the various technological abilities of the company which impress the organization's innovativeness operation, consisting the organization's ability of discovering or using technological

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possibilities, the ability to coordinate and its innovativeness direction. According to (Zahra and George, 2002) the technological competency refers to an organization's capability to produce, change and usage the received information.

The technological competencies are very essential for organizations' successful innovation operation. As Dibrell et al. (2008) stated that new operation should be carried out by technology innovation to improve the organizations' performance.

2.5 Technology Specifications

Appropriation of technology is a procedure of presenting changes to the industry, and the effect of changes is specified by the nature of the technology. For instance, there are some new technologies which industries should change extensively in their business operations, on the other hand, some other technologies can be applied with lower changes (Nord and Tucker, 1987). According to (San-Martína et al., 2016) specifications of technologies have an important role to adoption of new technologies. Certain technologies are more production oriented while, the other technologies are procedure oriented.

Production oriented technologies are those which make new services or productions. Procedure oriented technologies are those which present unconventional manners of managing business and the change of business policies (Tornatzky and Fleischer, 1990). The innovations of technology may be both production and procedure oriented for industries and consumers, and it depends on how it is applicable.

Sometimes, procedure-oriented technologies are deemed as the less beneficial technology. Some studies show reason of choosing the production oriented. Industries accept more production-oriented technology than procedures-oriented ones (Strebel,

1987); moreover, industries expend more on production oriented technologies (Chakrabarti, 1989). Production oriented technology acceptance gain managerial consideration in tourism and hospitality industry, based on agents which mentioned above, and also, they can be accepted more in organizations more than procedure-oriented technology.

Moreover, technology acceptance for productions is totally clear and it is much easier to use, however procedure technologies need some changes in the whole organization. For this purpose, more hospitality industries often adopt technologies which can show straight outcomes and prepare more unique services through customers. Previously industries used new systems which could improve business procedures, but this system need some changes and combination of business process. According Frambach (1993), in order to improve the implementation of innovation to the required level, it should adopt more technologies and add extra endeavors.

2.6 Environmental Technologies Applied in Hotel

According to (Buhalis, 1998; Porter & Kramer, 2011) technology is considered as a manner of increasing the competitive advantage of an organization, and as Rogers (1995) stated, technology generally contains software and hardware features. According to (Shrivastava, 1995) in fact, with the use of environmental technologies, are efficient to decrease or restrict the negative impacts of services in environment.

As Kirk and Pine (1998) stated the technology utilization in hospitality and tourism industry are categorized in various sorts which include: environmental managing technology, IT, service technology and food manufacture and construction technology.

According to (Lee, Barker, & Kandampully, 2003; Sheldon, 1997) it is clear that the service quality can improved in hospitality industry with the help of technology. Managers of hotels with the use of technology in different manners can save water and energy in hotel rooms. In order to save water and energy, hotels are required to implement environmental technics.

There are some examples about environmental technologies which are linked to hotel industry. These examples include: central air conditioners devices which readjust room's climate to the hotel's fixed temperature when merged with a building management system in order to conserve energy along with a key card devices to save energy and the existence of LED (light-emitting diode). According to (Chan, 2005a) furthermore, several developed environmental techniques are available in marketplace like solar battery, light sensors, various kinds of water saving systems and etc. Environmental technologies are classified in managing systems, contamination debarment and contamination control (Klassen and Whybark 1999b).

However, that hotel managers' low knowledge of technologies caused them to be unwilling to accept and adopt new technologies in their operations (Law, Buhalis, & Cobanoglu, 2014; Law & Jogaratnam, 2005; Mihalic & Buhalis, 2013). On the other hand, according to (Leonidas, 2004) the customers of hotels, especially those who care about environment (Baker, Davis, & Weaver, 2014), demanded appropriate environmentally designed hotels, also these customers are willing to pay more price for eco facilities in hotels.

According to (Freeman et al., 1992) the environment prevention technologies generally decrease pollution at the place with applying cleaner options than those

already present in the location. The recent washing machines with eco-tags are a sample of a contamination debarment technologies.

Pollution control technology decrease the diffusion of polluters, reform environmental harm and assure appropriate disposal of damage. Pollution control technology is classified as remediation. Remediation generally refers to purging the environmental harm.

 Decomposers of food for managing residue of food is another example of contamination control. The investment in management system, aid to ameliorate environmental operation. Teaching staff about reduction of water, energy and damages along with teaching and environmental knowledge, green programming and EMS (environmental management system) are the samples of managing system.

The technologies of environment which are generally applied in hotel industries include: air conditioner relevant control, lighting, the production of electricity, water provision and the cooling/ heating system of water (Cheung and Fan, 2013). The technologies of environment would help to expanding a framework to adopt new technologies which are useful for hotel industry (Eric S. W. Chana, Fevzi Okumus and Wilco Chan, 2017).

2.7 Smart Tourism

The world tourism organization (2015) defined tourism as a cultural, economic and a social miracle that caused people to travel to new locations away from their residence for business purposes, leisure and individual objectives. According to (Law et al. 2014; Koo et al. 2015; Werthner and Klein 1999; Benckendorff et al. 2014), the information-severity of hospitality and the vast dependency on ICT (information and

communication technology), it is normal to consider the notion of smart is used in tourism industry.

According Buhalis (2003), and Werthner and Ricci (2004), the smart tourism can be considered as a rational advancement from traditional tourism and electronic tourism in which the background for the technological and innovations direction of the industry and the customers were laid with the wide acceptance of ICT in tourism industry. For example, in terms of universal dispensation and booking online devices, incorporation of websites technologies which cause the appearance of electronic tourism.

As Sigala et al (2012) expressed, the extensive acceptance of social media proceeds with developmental direction, (Buhalis and Law 2008; Wang et al. 2012) and an action to understand mobile tourism in identification of the large mobility of tourism customer and tourism information. The smart tourism includes many elements, which are protected by information communication technology. The three key elements of smart tourism, which contain smart destination, smart experiences and smart business.

As Lopez de Avila (2015, n.p.) stated, the smart tourism destination is a new destination for tourist, developed on a structure of new technologies ensuring the sustainable increase of tourist regions, available to anybody, ameliorates the habitant's satisfaction of life and enhance the quality of the experience at destination. According to Buhalis and Amaranggana (2015) the element of smart experience particularly concentrates on technology interceded tourism experiences and their growth by monitoring in real-time and individualization.

The last element is smart business. This component relate to intricate business which makes and protects the co-production of the tourism experience and the interchange of tourist assets. As Buhalis and Amaranggana (2014) argued the smart business is determined by the digitalization of business operations, interlinked shareholders and institutional dexterity.

According to (Koo, Shin, Kim, Kim, & Chung, 2013) in general, the number of travelers who plan for their journey is increasing, as a result, the use and confidence of smart tourism increase as well . In general, as Correia & Kozak (2016) expressed, these signs show that travelers are smarter, more well-informed and more reactive.

2.8 Innovation of Technology and Customer Experience

According to (Deependra Sharma, 2016), some studies showed that with the help of innovation, companies can propose a better service to clients. The research derived that, there is relationship among positive perceptions and innovative practices about the profits being proposed, it is possible for the companies to gain permanent achievements (Kanten and Yaslioglu, 2012).

Customer value is resulted from innovation, this is a capability of companies to understand the customers better (Kandampully, 2002). As Hjalager (2010) stated, innovation can be achieved in every part of services such as F&B, recreation, health activities and accommodation.

According to (Han et al., 1998) technological innovation means adoption recent technologies in order to make intangible and tangible products for companies. The competitive advantage are provided by technological innovations, because these

advantages increase the guest service, productivity and financial performance (Kasavana and Cahill, 2003).

According (Beldona and Cobanoglu, 2007) technology is noticed as a value-added facility by accommodations and hotels and it helps to increase the customer satisfaction, produce more faithful behavior from customers and distinguishing themselves from their competitors. As Cobanoglu (2009a, 2009b) stated, inappropriate usage of technology could make dissatisfaction between customers.

According (Lee et al., 2003), the adopted technologies affect the customers not only straightly via services, however, the operation of hotel are affected indirectly by adopted technologies. As Deependra Sharma (2016) stated, the guest satisfaction and experiences are increased by technological facilities, because they are guest centric and also ameliorate the efficiency of employees. According to (Erdem et al.2009) the positive tourist experience, were resulted in different technologies which are adopted in hotel rooms, and also, the developed automatic front office helped hotels to satisfy their guest more.

As Jayachandran et al. (2005) and Karimi et al. (2001) stated, innovations in technology energize a company's implementation, due to the intensive of guest centric procedures. According to (Slater and Narver 2000), organizations must incessantly investigate methods of offering functional and also emotional benefits to guest, and technology enable organization to attain this aim. Today with the growth of using internet, the providers of services should be sure that guest receive their expectations at every level of making decision (Theodosiou and Katsikea 2012).

According to (Verma et al., 2007) not all of guest are satisfied with the use of technology, it did not have a considerable result on entire satisfaction process. In fact, technology may not positively influence the fiscal implementation of a company (David et al. 1996). According to (Piccoli and Torchio (2006) and (Siguaw et al. (2000) as each hotel become bigger and more complicated their dependence on technology enhance as well.

2.9 E-Commerce in Tourism and Hospitality Industry

According to (Chaparro-Peláez et al., 2016, Chang et al., 2010) in late of 70s the term of electronic commerce came into existence in industries. Several online shops motivate customers to use electronic commerce. According to (Tapscott, 1995), with the emerging of technology the traditional process of business, changed the services of industries.The importance of using e-commerce has developed considerably during 2000-2015, which resulted in development of using e-commerce in all over the world.

The general definition of electronic commerce is, electronic commerce covers every kind of administrative information exchange and business which is performed by information communication technology (Tamara Almarabeh & Yousef Kh. Majdalawi, 2019). Also accordion to (Turban et al, 2003) e-commerce define the procedure of selling, exchanging service and buying by using of internet and computer.

Tourism and hospitality industry are demonstrating the way electronic commerce can modify the structure of business while making new business opportunities (Werthner and Ricci, 2004). Tourism and electronic commerce complete each other.

According to (e.g., Wheeler, 2002) companies which contain suitable electronic commerce can improve their external and internal assets allocation to discover

business chances and show the specifications of powerful abilities as they use schedules, analytical procedures, information and easy regulations to build client value.

According to (Bilgihan et al., 2011) in hospitality industry in order to get competitive advantages through proper decisions, e-commerce plays an important role in hotels. (Gaffney, 2013) electronic commerce had a rapid expansion in the hotel industries. As Gaffney (2013) stated, the electronic commerce is developing every day in hotel industries, and today it is increasing into mobile business area.

As Maswera et al. (2007) proclaimed, the tourism and hospitality industry is a data-concentrated industry in which electronic commerce have an important role along with permitting information to proceed via internet on a global foundation with no barriers. In today's digital world electronic commerce is critical, hotel industries use electronic commerce to transform the old model of business.

Cano and Prentice (1998), along with Gretzel, Yuan, and Fesenmaier (2000), stated the content of tourism websites is very essential because it immediately effects on the perceived illustration of destination and makes a real experience for the consumer. As Perlovich (2013) stated, today for hotel industries it is very important to establish electronic commerce, (Boyd and Bilegan, 2003) while increasing a general sight of their hotel's income streams.

2.10 Conception of Electronic Usage in Service Quality

As Parasuraman et al (1988) stated, the traditional service quality is based on clients' interactions and experiences with organizations without using internet. As Atmaja

(2011) stated, the organizations which can provide service better than competitors are successful in the market.

With developing the competition among competitors, organizations in order to attain more customers, novelize their services by applying new technologies and internet which is called electronic service quality (Helvinasari Nasution, Amrin Fauzi, Endang Sulistya Rini, 2019). Electronic service quality can be comprehended as an assessment of the productivity and efficiency of buying, online purchasing and supply productions and service. In other words, electronic service quality is a development of service, which became electronic from traditional way (Anindya Selviana Putrianti1 and Hatane Semuel, 2018). Electronic service quality be the evaluation of effectiveness and efficiency of online purchasing, service delivery and products. As Santos (2003) described electronic service quality as consumer judgments and evaluation of superior electronic delivery in the marketplace.

According to (Lee & Lin, 2005) online clients, demand the better type of service quality than traditional channel members. Several agents forecasted consumer's understandings about the quality of email service. For instance, as Lee and Lin (2005) stated the significance agents influencing consumer's understanding of the electronic service quality in online purchasing which is liableness, capability, safety and confidence mechanism presented by websites.

As Ladhari (2010) stated electronic service quality can be identified by some features that include: firstly, capability and reliability of online shopping to continue the assigned service in right time and precise way, readiness of online shopping to aid consumers and high speed of responsiveness, safety and privacy protect people

information, easiness of use and availability, quality and compatibility of information with the demands and needs according to consumers' desires and lastly, the design of website is an elegance specification along with, content of the application and structure.

2.11 E-Tourism Definition

As Cho (1998) stated, the tourism and hospitality contain broad scope of information, and also internet has important role in this industry. The interplay among internet and tourism is known as electronic tourism that is growing rapidly (Buhalis, 2003). As Buhalis (2003, p. 6) explained, the electronic tourism refers to the digitalization of all procedures in travel, hospitality and tourism industries.

The electronic tourism utilizes the ICT (information communication technology) in order to develop the productivity of tourism. This industry provides a lot of services to consumers and make the implementation of tourism marketing more available in the shape of telecommunications (Condratov, 2013; Lumenta & Sugiarso, 2015).

According to (Buhalis and Licata, 2001) technologies have affected the tourism industry in recent decades, also, the manner that companies diffuse their productions in market have influenced by these developments. In fact, E-tourism expansion is linked to information communication technology expansion.

Information communication technology is a technology responsible for preparation, manufacturing, storing and diffusion of different kinds of information by using computers to overcome the weakness of human data manufacturing (Armenta et al., 2012; Lumenta & Sugiarso, 2015).

Electronic tourism areas define the technological advancement and the effect on the tourism marketplace, and information communication technology helps ensuring interaction among world market and market contributors (Condratov, 2013).

Electronic tourism with significant internet dissemination channels with marketing and tourism features impacted the utilization of information communication technology and impact on the development of the tourism and hospitality industry (Lumenta & Sugiarso, 2015). It should be mentioned that, websites, smartphones and social media are included in electronic tourism.

As Buhalis and Licata (2001) declared the existence of the electronic commerce along with internet and their acceptance in tourism and hospitality industry have modified the old and usual methods.

2.12 The Role of Information Technology and Development in Hospitality Industry

Today IT (information technology) is a significance factor for tourism. For the purpose of enhancing the competitive advantages (Nyheim, McFadden, and Connolly 2005), institutional efficiency (Siguaw, Enz, and Namasivayam 2000), and consumer loyalty (van Hoof, Verbeeten, and Combrink 1996).

Moreover, the accomplishment of information technology brings some benefits such as reduction of the expenditures, improved consumer service, refined business performance and enhanced incomes. According to (Ham, Kim, and Jeong 2005), it should be mentioned that performance of the tourism industry has developed recently,

and nowadays more organizations adjusted technologies in their services, productions and distribution.

As Buhalis and Main (1998) declared the tourism companies have been unwilling to use information technology. However, when technology was adopted by organizations generated profits were considerably above the costs.

Several managers realized the benefits of technology in strategic management, moreover the companies of tourism and hospitality, have accepted information technology to maintain managerial decision process and business performance (Ham, Kim, and Jeong 2005).

Some studies indicated that information technology is beneficial for growth and for proficiencies in today's world, especially in tourism industry that will result in reduction of expenditures, enhancement of incomes and customer satisfaction (Siguaw, Eng & Namasivayam, 2000).

Today, information technology became an essential strategic instrument for organizations (Nyheim et al. 2005). Utilization of different kind of information technology have been widely used in all tourism and hospitality organizations (Chathoth 2007).

Recently, the potential of technology in beneficial production and other operation of the organization has become one of important issues for tourism and hospitality scholars. With the growing usage of information technology usage, it is expected the tourism and hospitality organization would be constantly affected.

As R. Leung and Law (2005) stated, the findings of information technology can be useful for organizations to increase organizational performance, ameliorate the quality of service and decrease the expenses. According to Peppered (2002), information technology will influence the hotel's services, financial resources and might also have a great impact on marketplace for hotels.

It should be mentioned that, information technology aid hotels to remain in the marketplace and compete by responding to customer's demands along with adapting the variations according to the consumer's requirements.

2.13 The Concept of Deluxe Hotels

The hotel industries are the significant factors to encourage the visitors to visit and travel, as a result hotel are an essential part of tourism and hospitality industry. According to (Hall & Milburn, 2007) the word of deluxe contains several meanings. For some people, deluxe hotels are accommodations with more security and privacy while for other people it can be endless services or a private buyer. As Hall & Milburn (2007) stated deluxe hotel is a mixture of services and facilities that realize the fact that you are not at home and as the visitors are getting richer, also they are becoming much more ambitious about their perspective.

 The hotel industries are categorized by their stars, high rank or luxurious hotels are type of residence with the desired internal designing, a great quality with consideration to particularities, acceptable services and perfect consideration to visitor's requirements moreover, they make sure that the employees should be respectful, polite and informed about all features regarding the customer service (Research Department of the Caribbean, 2002).

in fact, these standards of deluxe hotels are classified into several categories which are include: the entry and exit, lobby, kitchen, restroom, bedrooms, legal provisions, employees and managers, lobby, hotel front, car parking, stairway, food and beverage, reception and public restrooms.

Exclusivity is noticed to be a luxurious feature, but everything which appears as luxurious, is not certainly exclusive. Cost is not the matter. The unicity and peculiarity of the experience is the important issue (Regis Perruchot, Hotel Business Director, Splendia Hotels).

2.14 Barriers to Technology Adoption

Hooper (1992) indicated that, the accessibility of capital is a significant factor of technology determinant. According to (Klassen, 2000) some new technologies are related to environment, these new technologies are usually expensive and there is not adequate financial resource so, companies will not be able to invest in technologies for their activities.

Today most of hotels use the environmental conveniences, for example new sensors for rooms, new shower heads in order to save water and new model of air conditioner are applied in order to save energy and environmental protection because managers and employees of hotel are aware that these are useful gadget to reduce the usage of water and energy.

According to (Eric S. W. Chan, Fevzi Okumus, Wilco Chan, 2015) however, progressed technologies like solar systems are not applied in hotels because they are expensive and, they are risky to be applied. Moreover, new technologies require better preservation expenses because in some hotels there is an absence of essential

preservation proficiencies. So, new technologies can cause in successive expenditures after their adoption.

As Hooper (1992) stated, beside the high expenditures, the organizational culture of a firm is other important agent in adoption of new technology. The corporate office of hotels is the core of authority to adopt new technologies for environment or presenting new tactics.

According to (Ashford, 1993) managerial tendency for acceptance of technologies influence the allotment of resources and the usefulness of training and communication. As Oronsky & Chathoth, (2007) stated the general managers of hotels might ignore the actual effect of a technology in work.

According to (Quazi,1999) the environmental management system performance may be obstructed by agents like the difficulties of patterns controlling the system, the absence of motivations to perform, the absence of management responsibility, the expenditure of performance and obscure staff accountabilities. The performance obstacles have classified in two essential categories which are included institutional obstacles, consisting staff tendency, weak relation, old training and insufficient management and secondly, obstacles to industry, consisting technological data, the form of usual activities, industry rules and high expenditure (Post and Altman 1994). According to (Eric S. W. Chan, Fevzi Okumus, Wilco Chan, 2015) about barriers to adoption of technology which affect the hotel firms and those impede them from applying these technologies, there is no adequate empirical proof.

2.15 Barriers to Technological Changes in Tourism

As stated before, this study concentrates on the barriers to adoption of technologies in hotels in city of Mashhad. According to (Carnall, 1995; Okumus, 2001; Okumus and Hemmington, 1998a; Overholt et al., 1994; Hernández-Mogollon et al., 2010; Risquez and Moore, 2013) there are many barriers to change which faced by managers while adopting new technologies, these barriers include absence of experiences and skills, limitation of time, lack of budget, technical problems, external as well as internal policies, loyalty to present practices and cultural barriers.

According to (Kuruppuarachchi et al. 2002) people and processes in a company should tolerate to important variation, caused by adopting, knowing and development in answer to the presentation of technology.

The obstacles to applying the electronic-commerce in the tourism industry has been investigated and it has been indicated that, the expenditure of performance in the organization is a very significant agent. Plus, the lack of efficient employees and the absence of teaching are the reasons of these barriers (Heung 2003).

As Muilenburg and Berge (2001) surveyed, various companies and industries may have some barriers to adoption of technology, and they found some important barriers to technology in industries: managerial structure, technical skill, institutional variations, time limitation, supporting service and accessibility.

It should be mentioned that there are barriers to environmental variation procedure in companies (Post and Altman 1994). These researchers categorized two basic obstacle topics which include: organizational obstacles and industry obstacles.

In the field of healthcare professions, Johnson (2001) surveyed the obstacles to the performance of technology and detected four principal groups in regards to the medical care business. These groups consist of: positional agents (financial agents and exterior environmental agents influencing the usage of technology), perceptual agents (inadequate proficiencies or capability to apply a technology), legitimate agents (controlled or uncontrolled methods which impact on the usage of new technologies), and attitudinal agents (conducts or beliefs opposite to those required to accept new technologies).

According to Carnall (1995), the main ways of variations can be exterior and interior. The exterior barrier is influenced by social, technical, political and financial drives beyond the company, all of them may lead to variation. The interior barrier is influenced by the company's manager's decisions, manners, framework and difficulties along with staff perception. Obviously, there may be special obstacles linked to any of these factors.

Chapter 3

CASE STUDY

In this study, the city of Mashhad is selected, and certain important information will be indicated about Mashhad. This information mentioned above contain geography, tourism, political issues and economy of Mashhad which affects the tourism and hospitality industry in this city.

3.1 Background about Iran

The country of Iran is in the south western Asia. In fact, this country is in semi-arid area with an average yearly rainfall of 250 millimeters (Kardavani, 1996). The population of Iran is almost 82 million inhabitants and the territory spread across 1,648,000 square kilometers. There are thirty states in Iran.

The biggest state is called Sistan-Baluchistan with a space of 181,785 square kilometers and Tehran is the busiest city with a population of twelve million (www.ichto.org). Iran has one of the ancient societies of the world which is one of the considerable specifications of Iran.

With regards to the specifications mentioned above Iran can attract tourists but unfortunately, the absence of experienced specialists and long-term planning caused in certain problems in Iranian tourism and hospitality industry (Khaksari et al., 2014).

The factor which makes Iran such as special place for tourists is the 2800 coast lines. The countries which have border with Iran are Turkey, Turkmenistan, Armenia, Afghanistan, Pakistan, Iraq, and Azerbaijan. Iran is a country of four seasons which is noticed as one of the significant specifications of ecotourism in this country.

There are some various wonderful landscapes such as Zagros and Alborz mountains and the two famous deserts which called Dasht-e-Kavir and Lut which are situated in this country. It is noteworthy that, there only seventeen kinds of climates specifications in all over the world and Iran solely has twelve of them (Zolfaghari, 2007). The third biggest province in Iran is Khorasan Razavi with 144,681 square kilometers and the population there is almost 3,097,000 that is noticed as one of the busiest city in Iran.

This country has an immense potential to attract more visitors from all over the world. As mentioned before, Iran contains four seasons and various climates may be existed simultaneous. For example, in fall and spring the weather is so mild, whereas in winter has the lowest temperature and snowfall is observable as well. Moreover, in summer the temperature touches the peak and sometimes the area become insufferable. Iran possess the 16% of the natural gas and also, Iran generated the 10% of the oil stores in the world (indexmundi, 2013).

The export of Iran completely depends on the natural gas and oil, which means that the extent of oil and gas resource control the economy of Iran (Indexmundi, 2013). The tourism and hospitality in Iran did not increase much compared to the other countries, and it is assumed that most of the tourists are domestic. Mostly, because of pilgrimage and religious issues, Mashhad has an important role to attract domestic and international tourists.

As O Gorman et al. (2007) declared, too much dependence of Iran on oil and gas has some disadvantageous impacts. As a result, the industry of tourism and hospitality of Iran is not able to compete with other countries. Moreover, the political issues are one of the important factors in international visitor's reduction.

The economy of Iran has been affected by various embargos, which inversely affected the economy development, moreover the insecure vision of Iran, caused many problems for the investors and tourism industries. In addition, the absence international investments and suitable management in tourism and hospitality industry of Iran are the main problems.

It should be mentioned that, Iranian are not willing to visit cultural places and historical monuments, so the tourism sector gain an insignificant amount of profits. Furthermore, Iranian citizens are not interested in purchasing handicrafts.

Government owns most of the deluxe hotels in Iran and small hotels are managed and controlled by private sector. In fact, the absence of international investors and tourism expansion has some advantages in terms of expansion and dependency of tourism and hospitality industry.

Figure 2: Map of Iran (www.mapresources.com)

3.2 The Development of Tourism and Hospitality Industry in Iran

In Sasanian period, the title of country was Iran but in 1935 it became the official name of this country. However, this country has been recognized as Persia by the western countries. According to Mozaffari et al (2017), the impacts of tourism as a cultural and economy factors has always been supported by the government in Iran. The history of tourism expansion in Iran goes back to 30s, during this time first hotels and tourist facilities were built.

In Pahlavi kingship time, the hospitality and tourism industry in Iran was noticed as a significant factor, in order to elevate the culture and history of Iran. In addition, during this time the countries which contain most of the tourism market, were the USA and Europe.

But, in 1979 the tourism industry was affected by the political issues and the expansion of tourism has been terminated by Islamic revolution. Today for international and domestic tourists, religion is a one of the factors of restrictions. The restricting rules regards to dressing and alcohol consuming had badly affected the image of Iran globally (O Gorman et al., 2007).

The significant factor of tourism in Islamic countries is pilgrimage tourism. Today, the major market of tourism in Iran are Arabs Shiite countries like Kuwait, Iraq, Lebanon (Aminin, 2012).

Several international and domestic tourists are attracted by Iran's cultural and historical monuments. Shiraz and Isfahan are the two most important cities which attract the tourists because of cultural and historical monuments.Although, in Iran there are more than 1,200,000 historical monuments and wonderful natural resources, it is not noticed as a forerunner country in the tourism industry. While, some other Islamic country such turkey, emirates and Saudi Arabia attract a big number of tourists every year (Momeni, 2011).

Iran could be one of the most important countries in the context of tourism and ecotourism but, out of 750 million dollars, Iran only achieved seven million dollars in 2005 out of total revenue of world tourism (Zolfaghari, 2007). As Momeni (2011) stated, In Iran the absence of good planning and development are the major problem of tourism and hospitality industry.

3.3 Tourism Industry in Iran before and After Revolution

According to (UNWTO 2006), from 1969 to 1977 (before revolution), the number of international tourists grew from 200,000 to 700,000 each year. In that time, the main

reason of this development was the government of Iran and their policies to the foreign countries, and existence of certain important policies in order to tourism expansion and attract more visitors.

It should be mentioned that, several international deluxe chain hotels such as Hilton and Hyatt, were eager to establish their hotels in various cities of Iran such as Mashhad, Shiraz and Tehran.

During 1967 to 1977 in Middle East Iran was the top destination for tourist, while Egypt, that contains one of the seven wonders, was the fourteenth in the area (Morakabati, 2011, p. 110). According to (Hafeznia et al., 2007) before 1979, this country was secular government that was almost linked to universal capitalism and matched with the western valences.

As a result, the expansion of tourism was increased according with the western marketplace, so as the number of tourists increased the economy of Iran increased subsequently. During 1966 to 1978 for example, the export of Iran (non-oil) was approximately 16% (Hafeznia et al., 2007, p. 3842). However, today the exports of gas and oil constitute more than 80% of total export incomes. After Islamic revolution, the politics of Iran changed to the Islamic rules and separated their policies and ideologies from the Europe and USA (Hafeznia et al., 2007).

The policies of new state concentrated only on Islamic values and it was completely against to the Shah's authorities. Furthermore, the rules were transformed into the Islamic version. After revolution, because of new policies, political tensions, embargos

and Iran and Iraq war during eight years, the number of visitors from 680,000 to 200,000 reduced considerably.

It should be mentioned that, in 2004 the number of international tourists developed to 1.6 million. In 2013, the appointment of Hasan Rouhani as president of Iran, resulted to essential changes in relation with Europe and USA.

After nuclear agreement among Iran and G5+1(UK, US, China, France, Germany, Russia) was gained in July 2015. Following this agreement, the economic embargos on Iran were eased, therefore Iran's connection with Europe and USA, particularly the decrease of embargos, slowly converted the negative image of Iran (Suarez, 2016). After agreement the number of international tourists increased fast. Iran is trying to gain attentions as an emerging destination and attempt to replace itself in tourism marketplace.

But the actual president of the USA has a negative attitude towards Iran. Trump declared his objection to the nuclear agreement (Griffin, 2016) and described this compromise as an unreasonable agreement (The Financial Times, 2016). Trump withdrew from the nuclear deal on 8 May 2018, which had a lot of negative consequences in Middle East.

The international investors started to invest in Iran but, they are waiting for specified future (Euromonitor International, 2017, p. 1). These tensions between Iran and USA can create some serious problems which affect to the developing hospitality and tourism industry in Iran.

Table 1: The Arrivals from Europe Countries during 5 Years in Iran (Euromonitor International (2015, p. 7)

Trips	2009	2010	2011	2012	2013	2014
France	8.0	6.1	6.0	5.9	7.3	7.4
Germany	18.1	18.5	16.9	18.0	21.2	21.9
Italy	11.0	9.2	10.0	9.6	13.0	13.2
Spain	2.5	2.5	2.7	2.3	3.6	3.7
United Kingdom	6.7	7.8	6.6	3.8	5.4	5.6

3.4 The Impact of Tourism on the Economy in Iran

The tourism industry in Iran is almost new event. Before Iran was affected by the limitations and financial sanctions, as a result this country lost international tourists. As the WTO (world tourism organization) declared, Iran has potential attracting tourists more than other countries. Nowadays, tourism is dependent on the visitors and mostly the domestic tourism is considered in this industry.

The entrance of foreign visitors is not easy in Iran, and the process of development and modernization and making new facilities for tourists have started. For many years, foreign visitors are increasing in all over the world such USA, Europe and Asia. Foreign visitors, due to the decrease of the value of Iranian currency, are becoming more interested in reserving hotels in Iran and benefit from the natural resources.

The existence of the investment in tourism industry means the expansion of tourism which is very essential for the economy of Iran. On the other hand, the financial embargos contain a lot of problems for exports and at last these problems would leads to devaluation of currency in Iran.

Although there are a lot of restrictions in Iran for international tourists and especially for women, these restrictions did not prevent the entrance of foreign visitors in Iran. Mostly, tourists are attracted by historical and cultural places of olden Persia, as mentioned before and, there are a lot of natural resources which are in Iran. Moreover, existence of deserts, volcanic mountains, the Caspian Sea and Persian Gulf also attract the tourists.

The actual president of Iran has declared that the development of tourism industry is significant, in order to store the financial resources and show the new image of Iran to the world. According to (Pourtaheri M., Rahmani K. & H. Ahmadi, 2012) this program helped to increase the rural tourism and created more accommodations and resorts for tourists.

The industry of tourism had positive impacts on economy of Iran, also it is important source of occupations, an alternative to adapt international community and modernization. However, other believe that the tourism industry is a menace to the Islamic rules and values. Figure 3 shows the arrival and expenditures by tourists in Iran during 11 years.

Figure 3: International Tourism Expenditures (www.cieckdata.com)

3.5 Domestic Tourism in Iran

According to (World Tourism Organization, 1995, p. 11) the notion of domestic tourism is a kind of tourism which the tourists are inhabitants of the given country. Mostly, due to the positive impacts and profits of domestic tourism, the government pay attention to this kind of tourism.

According to (Alipour et al (2013), the profits of domestic tourism involve cultural realization, job opportunities and heritage conservation. As Alipour et al (2013) stated, by developing the usage of personal vehicles, the domestic tourism has developed significantly. In Iran the religious activity is a major factor for domestic tourism.

The major factor of tourism in Iran, is religious tourism which the number of pilgrims is approximately 30%. On the other hand, 26% are VFR (visiting friends and relatives); 30% of tourism aims are related to business and the number of excursion tourists are 10%.

By the way, the cultural and historical places for tourists contain Isfahan and Shiraz, most of the native traveler are working and living in big cities like Tehran, and the

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religious cities involving Mashhad and Qom interests most people of Iran for the purpose of travel these cities to perform religious activities. The young generation of Iran is approximately 30 years old and mostly, they are workless, as a result, the government is accountable to create job opportunities for young people (Khajehpour, 2006).

Government about foreigner investors is pessimistic, which is noticed as one of the agents of underdevelopment regarding hospitality and tourism industry in Iran. Because the government controls the hotel groups, the foreigner investors lost their interest to invest in Iran.

As O Gorman (2007) stated that, the absence of management, long term planning and training result to some difficulties in tourism sector. In Iran, hijab for women and alcohol restriction are considered as other challenges for growth of tourism (O Gorman, 2007).

In 1969 according to statistic data, the number of international tourist who traveled to Iran was 242,000and in 1975 has enhanced to 588,786. However after Islamic revolution, due to the war between Iran and Iraq and some other occurrences the number of international tourists that travelled to Iran reduced in 1982 to only 68,600 (Zolfaghari, 2007). Iran has a lot of historical and cultural places and also has potential to attract tourists, but it was not successful in this field.

Zolfaghari (2007), declared that the absence of appropriate planning and management are the most important factors of tourism underdevelopment. And also there are some disagreements between tourists and governmental planners, which is other problem.

For domestic tourists there are some restrictions which include entertainment, F&B and facilities. Moreover, for domestic tourists these things may be costly and will not be easy to apply. It has been predicted until 2025 the number of tourists are expected to increase by 20 million, according to the 4th expansion plan. So, the received income by tourism sector will increase 30% and also the number of recruitments will enhance to 4% (Zolfaghari, 2007).

Figure 2 indicates the number of domestic and international tourists in Iran in 2017, which the number of domestic tourists were more than international tourists.
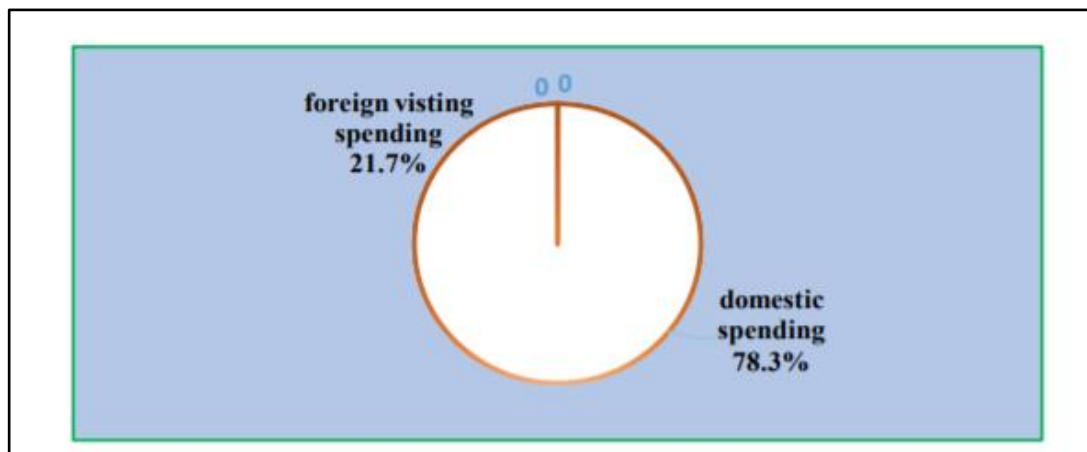
Figure 4: Travel & Tourism's Contribution to Gdp: Domestic Vs Foreign, 2017

3.6 The Religious Tourism in Shiism

Like every Muslims, Shiites accept the five columns of Islam: fasting, pilgrimage, daily pray, alms and belief. As it is mentioned in Islam, there are some differences between men and women, but for Muslims and especially Shiites, pilgrimage has been existed for a long time ago also travelling for these targets for males and females is free especially for religious places.

As a result, Islam essentially agrees with tourism. But the development of tourism results to communications with western countries and modernization which is totally against to the ideas of extremists.

As Qur'an stated, Muslims must travel in order to admire the beauties that God created and also meet their relatives and friends. As a result, according to the Islamic rules, the Muslims who host the tourist, are accountable to provide good services to tourists (Okhovat, 2010).

In fact, pilgrimage is a kind of tourism, but tourists only travel for religious practices, on the other hand, other tourists beside religious practices add some entertainment and amusement activities to their journey.

From 1978 to 2011, the number of tourists who came for religious activities increased significantly, from 6.29 million in1978, it came to 27 million in 2011(Alizadeh, 2011). The tourists who travel to holy cities like Mashhad and Qom, because according to Shiites religion, imams mediate with God. The expansion of religious tourism and the holy places which are in Iran, has a lot of benefits for the economy of Iran and the growth of foreign tourists will enhance the residential values.

3.7 Tourism and Hotel Industry in Iran

According to (Morakabati, 2011) after the political turbulence in some parts of Middle East, the level of hospitality in these areas has changed significantly; the variety of food, various weather, and also offer the welcoming hostess; as a result, Middle-East became as the most attractive place for tourists. Iran which is located in this area, before until 1935 this country known as Persia with a high historical dating and old

kingdom which expanded outside the present boundaries (Encyclopedia Britannica, 1980, Vol. V).

As (Latifi, 2006) stated, due to the ancient urbanization in Iranian plateau, the people has been influenced by various cultures. The different cultures in Iran have reflected in three periods: firstly, the old culture of Iran, secondly, the Islamic period and the culture of Western (Bani-Asadi (1984) and Latifi (2006).According to (Jalilvand and Samiei, 2012), Iran's culture and environment with a flexible weather provide a dynamic, various and especial place to attract tourists.

As the statistics reported in 2011 by Iran's Cultural Heritage and Tourism Organization, in Tehran, there were four five stars and eight four stars hotel, while in Khorasan state, six five stars and nine four stars hotels existed and in Isfahan there were one five stars and four, four stars hotels. However, as Tajeddini (2009) stated, there are not enough information about the innovativeness and efficiency in hotels in Iran.

According to (Karatepe and Safoora Shahriari 2012) the management of five- and four-stars hotels in Tehran and Kish Island (south of Iran) should ensure that all employees receive the justice in the distribution of remuneration and quality of interplay between staffs and administrators. Despite in Iran there are attractive places for tourists, but in recent years the continuous variations in economy and politic situations of Iran have enormously affected the tourism industry in Iran (Shahram Salavati, Noor Hazarina Hashim, 2014).

According to (Golmohammadi et al., 2011), Iran is not a popular destination for tourists; however, the rate of crime and insecurity is very low. It should be mentioned that, the constant political problems between Iran and USA and the effect of media to show Iran as extremism Islamic country, caused this phenomenon.

The western countries warned the tourists to stop selecting Iran as a destination beside the political problems. according to (Baum & O'Gorman, 2010) the hazards which are existed for visitors contain robbery, dealing of drugs, abducting and violent attack, and also in secure towns, the western government warned about the high rate of incidents and non-standard roads.

As UNWTO (2013) reported, the visitor arrivals to Lebanon, Syria and Egypt decreased significantly from 10 to 40% because of Arab rebellions. On the other hand, in 2010 the tourist's arrivals to Iran enhanced, in fact 2.9 million visitors have visited Iran and in 2011 the number of tourists increased to 3.3 million.

Generally, the tourism industry in Iran are classified in 3 significant eras: firstly, before Islamic revolution, secondly, during1980 to 1988 during the war between Iran and Iraq and thirdly, after war. In 1979 after the Islamic revolution, most of the travelers have visited Iran for business and religious purposes. However according to (Economist Intelligence Unit, 2008b), before Islamic revolution, the number of tourists who traveled to Iran was considerable, compared to the number of tourists these years.

According to (Economist Intelligence Unit, 2008b), the government of Iran has started a project to increase the number of travelers and the revenues resulted from tourism in recent years and the construction of new hotels has been discussed.

3.8 The Effects of Sanctions in Iran

Politic and tourism industry are two interlaced issues, the political issues affect the tourism industry significantly, in another word, the political changes influence on how tourism expand (Butler & Suntikul, 2017).

Sanctions against economy on intended country develop the expenses of export and oblige the receiver countries to fail in their global competition, in addition, import and export of commodities will be costly. Sanctions negatively affect the allotment of resources; therefore, the economic system of target country will modify (Stephen Pratt & Valiollah Alizadehb, 2017).

The international investments and relation with other countries will be decreased considerably which are sanctions consequences (Farmaki, Altinay, Botterill, & Hilke, 2015; Ivanov et al., 2017), another impact of sanction is that the political and financial dependence of sanctioned nations to friendly countries increase (Alipour & Kilic, 2005).

In the case of financial section, sanctions develop the rates of interest and enhance the expenses of payments and investments in long and medium term. Sanctions contain developed doubt, in fact they will barricade the local and international investors to invest and totally the efficiency of marketplace reduce (Hufbauer et al., 2008).

As Levs (2012) stated, for many years, Iran was the topic to sanctions by international institutions. In 1979, after the offense to the U.S embassy in Iran, the tensions between these countries increased and sanctions against Iran started.

During 1995 the sanctions increased significantly and US inhibited other countries to invest and commerce with Iran in 1996. According to (Aljazeera, 2012) stated, in 2007, US inflicted new sideway embargos, the most difficult sanctions in 30 years. New sanctions imposed to Iran in 2008 by UN Security Council, these sanctions contain observing Iranian cargo and ships and banks. According to (Pratt & Alizadeh, 2017) the effect of sanctions has been destructive for Iranians.

The level of living for people have fallen down. In addition, the quality of life and the middle class for Iranians because of sanctions have been very difficult in recent years (Sadeghi Esfahani & Abdi, 2012).

According to (Khodadadi, 2016c) if sanctions remove, it is expected that the investment from international market and hospitality industry in Iran grow again. As Porter (2015) stated, in the following of reduction of sanctions, the tourism and hospitality industry in Iran increase quickly and Western countries are more willing to visit this country.

In fact, the tourism industry of Iran will positively be affected by using of credit cards. Also, the airplane industry will also be upgraded, finally Iran will be able to buy airplanes from famous companies.

The tourism industry in Iran have been affected negatively after Islamic revolution, especially for international tourists Iran hasn't been touristic destination. Poor decision making and management, fluctuation of politic, negative image of destination and plus sanctions have caused difficulties to tourism industry (Butler, O'Gorman, & Prentice,

2012; Ghaderi & Henderson, 2012; Khodadadi & O'Donnell, 2015; Morakabati, 2011; Reza Jalilvand, Samiei, Dini, & Yaghoubi Manzari, 2012).

According to (Khodadadi, 2016) the industry of tourism can increase significantly, if economic sanctions will be removed. In fact, Iran became a negative destination for tourists because of economic sanctions. In addition, the process of visa for Western countries is very long.

The traditional punishment theory believes that the harm of economy leads sanctions immediately become into local political problems which compel governors to agree with exterior requirements (Lektzian & Souva, 2007, p. 850).

The government of Iran in order to supply the budget, depended on selling oil almost 60% of government incomes are supplied by oil incomes (Stephen Pratt & Valiollah Alizadeh 2018). As a result, to decrease the dependence on oil, government should try to increase the tourism and hospitality industry (Khodadadi, 2016).

3.9 Infrastructures of Tourism and Hospitality Industry in Iran

As Bookman & Bookman (2007) stated, a wide and effective infrastructure is an essential agent to the economy of a country. In fact, inefficient infrastructure may cut off the international competition and economic growth of a country (Hope, 2010; Tribe, 2004).

As Nallathiga (2015) stated, an advanced infrastructure can decrease the inefficient impacts of space among areas, connecting the national marketplace at lower expenses to marketplaces in other areas. As Goeldner & Ritchie (2009) stated, the infrastructure

of tourism contains services and facilities applied in a specific place to supply the requirements of domestic people, and serving tourism particular aims.

The existence of tourism infrastructures can develop and enhance tourism via creating accessible travel easements to travelers (Suleiman & Albiman, 2014). Infrastructure of tourism be a sector of tourism production which can lead travelers and form their attitude (Panasuik, 2007; Williams, 2009).

As Rahimpoor (2007) stated, 20 million tourists will be attracted to Iran in the year of 2025. In fact, it seems that tourism industry of Iran is not able to fulfil these number of tourists, 13% only forecasts came true (Kargar, 2007). From world tourism revenue the share of Iran is almost 1% that is very poor rate (Amiri Aghdaei & Momeni, 2011). In fact the instability of politic is acting as a factor of barriers in development of tourism (Sharpley, 2008).

Some researchers showed beside the cultural and political obstacles to development of tourism in Iran, for tourism infrastructures there are improper situation. In fact the lack of appropriate infrastructures in Iran are essential problems which cause retardation the advancement the tourism industry in this country (Ahadnejad Raveshti & Salehi Mishani, 2012; Soleimani Moghadam & Islami, 2011; Samadian, Hoseini & Rauf Ava, 2009). However, in several metropole cities like the capital of Iran, the facilities and infrastructures of tourism are accessible, in some other areas there are no adequate infrastructures. The tourism infrastructure has a critical role in tourism industry development and cause improvement in economy (Moslem Bagheria, Payam Shojaeib and MaryamTayebi Khoramic, 2017).

3.10 Employment of Technology in Iran's Tourism

Since the establishing of the Islamic republic in1979, the tourism industry in Iran have been affected by external and internal political situations. After provisional international nuclear agreement in 2015 and the tranquility of sanctions, resulted into transformation and progress in investments and entrances have been increased.

The yearly external tourists are expected to be between 4 to 5 million and extended growths are predicted. However, the government's aim of twenty million by 2025 is deemed as impractical (Khodadadi, 2016).

Before, Iran adopted technology and more than 70% of people use smart phones with remarkable use of internet and online activities (Baldino & Goold, 2014; Shirazi, 2012).

Regarding utilization of information communication technologies there are some problems, as commentators mentioned, it may be used by political opposition which was aroused as Arab spring democracy motions. There is a high grade of censorships also control has emerged and some applications of smartphones do not work in Iran.

Today metropolises of Iran are formulated as an electronic city and there are some progresses in the use of information communication technology. (Isfahan Metropolis News Agency, 2017) being a smart city is very important for the preparation of proficiencies that are useful to the hospitality and tourism industry.

As Donya-e-Eghtesad, (2016) stated, new technologies are replaced of method of communicate with tourists who come from other countries and their presence is very

necessary. Free internet and Wi-Fi have been established at elected tourist websites that are government authorized that is making smartphone applications, starting electronic leader and launching electronic taxi service.

3.11 History of Mashhad

The saintliest city of Iran is Mashhad, and the name of this city means place of martyrdom which refers to historic occurrence of imam Raza's martyrdom in Mashhad. The last place that the eighth imam of Shiites attended, was a pleasurable place with a mild weather, this region was known as Sanabad in that time. This area was close to Tous city that was the capital of Khorasan state.

In the thirteenth century of Anno Domini, Mashhad was invaded by Mongols and everything have destroyed by them. As a result, some Mongol people migrated to Mashhad.

Mashhad was occupied and conquered by Arabs in caliph Osman. After this attack, this city, was attached to the Islamic domains (Aminian, 2012).

In the year of 203 AH the eighth imam of Shiites murdered, and he was buried in Mashhad. The existence of imam Raza's tomb lead to expansion and development in this city and eventually, Mashhad became a big city and today people call this city as Mashhad al Reza.In 1979, after revolution, the government paid special attention to Mashhad, and to this day this city is developing and growing (Aminian, 2012).

3.12 Geography and Location of Mashhad

The case of this study is Mashhad, this city is situated in the northeast of Iran also the capital of Khorasan Razavi state is Mashhad. The longitude of E 59° 36' 43 and the space of Mashhad is almost 27478 square kilometers (Aminian, 2012).

As mentioned before, after Tehran, Mashhad is the second largest city in Iran. And also, in Iran, for international and domestic tourist, Mashhad is the three top destinations (Parstime, 2013). According to this website (www.chto-khr.ir) there is a high percentage of hotels and accommodations in Mashhad, with wide diversities to provide services to various levels of revenues.

In Mashhad, there are 200 hotels, 260 hotel apartments and 502 inns. The main hotelier's organization is located in Mashhad, as a result, the tourism and hospitality industry plays an important role in this city (Aminian, 2012).

The population of this city is 3,097,000, after Tehran is the most populated city in Iran and it is the world's 101th most populous city. Each year Mashhad hosts 27 million domestic and international tourists. Most of which are pilgrims (www.chto-khr.ir). According to (Statistical yearbook of Mashhad Municipality, 2010),the number of international tourists travelling to Mashhad is developing by 15-20%, and it should be mentioned that the development of the population is 2.5% annually the neighbors of Mashhad are Turkmenistan and Afghanistan, and this city is 1050 meters above the sea (Aminian, 2012).

In fact, the geographical situation of Mashhad is very important, and from a long time ago, Khorasan province has been located along the ancient Silk Road, moreover after

emergence of Islam due to eighth imam of Shiites it is known as a religious center. Mashed is surrounded by Hezar-Masjed and Binalood mountains. In winter, the weather is very cold and dry, summers is very hot and in spring the weather is mild and pleasant.

As mentioned before, due to the existence of the eighth imam of Shiites, imam Reza, most of domestic and international tourists which mostly are from Arab countries are visiting this city every year. In fact, the government of Iran have an essential concentration on hotels, accommodations and facilities for tourists. Therefore, among all provinces in Iran, Mashhad receive the more facilities (parstimes, 2013).

3.13 Cultural Places in Mashhad

This city is known as a cultural city. The tomb of the great Iranian epic poet Ferdowsi in fourth century, who have written "Shahname" is located in Toos, which is now a new city close to Mashhad.

Also, it should be mentioned that, the tombs of Attar (Iranian poet), Khayyam (Iranian philosopher, poet, mathematician and astronomer) and also Kamal ol-Molk the great Iranian painter are located in Neyshabur, a city which is located in 100 kilometers from Mashhad.

The Khorasan province is known as the "land of Sufis" because a lot of people who are following Sufism are based in this city. Mashhad according to cultural and historical antiquity and several national days attract a lot of international and domestic tourists.

Also, the palace and the tomb of Nader Shah, was founded by the Afshariyyah dynasty in the year of 1114 solar year. As a result, the holy shrine is not considered as only historical place but it is a wonderful architectural particularity.

3.14 Economy and Policy of Mashhad

In Iran, among other cities, Mashhad is known as a growing economy. Agriculture and horticultural production are considered as the most important features of Mashhad. In addition, the main portion of saffron planting is done in Mashhad, and each year, considerable income is attained from tourism and hospitality sector in Mashhad.

Iranian carpets and Mashhad's leather are famous around the world especially among countries which have same border with Iran. Also, it should be mentioned that, exporting these items are helping to the economy of Mashhad. Moreover, the existence of the hotels and facilities in Mashhad have positive impacts on the economy of this city.

Mashhad like other states in Iran is controlled by the government, hence all the responsibilities are taken by the government. In Mashhad, Astan-e-Qods Razavi organization which is governing the holy shrine is also accountable for all managerial decision making and also this organization own some other business and companies. 1200 years ago, when the eighth imam of Shia passed away in Mashhad, this association was established by the gifts of pilgrims. It is evaluated to be worthy of almost fifteen billion dollars (Aminian, 2012).

This organization after Islamic revolution in Iran, achieved more authority and enhanced their control and today almost 20,000 people are employed in this association. It should be mention that, they have many businesses such universities,

shopping centers, educational institutes etc. In addition, mostly the real estates, some health care centers, breads and sweets products are belonging to this association.

3.15 Problems Related to Tourism Industry in Mashhad

Each year 27 million tourists are visiting Mashhad, which generates a massive income for this city. However, the huge number of tourists result some problems such as air and environment pollution, traffic and etc. Approximately 82% of tourists are willing to use bus and their personal vehicle, as a result not having adequate space for car park is an important issue for people.

The tourists are mostly from suburb of Iran, some of these visitors do not care about town region and environment. For municipality of Mashhad, the most important problem is waste material which is making by visitors. Also, the water resources of Mashhad is limited. Inhabitants of mashed, in summer suffer from water shortage, which is produced by the visitor's excessive water consumption.

3.16 Religious Tourism in Mashhad

The most complicated tourism in Iran is religious tourism which is related to Islamic rules. Mostly this kind of tourism is related to the city of Mashhad. According to (Dadpour, 2009), as a result a lot of international tourists are visiting Mashhad each year, and the number of local tourists is high as well. In Islamic countries, the expansion of tourism and hospitality industry is affected by religious rules and the behavior of tourists is affected the religion as well.

The shape of tourism has been affected by moral and religious perspectives in the Middle East. As (Khaksari et al., 2014) stated, the most of sacred places are situated in Iraq such as Najaf and Karbala, Saudi Arabia medina, mecca and Iran Qom and

Mashhad. The city of Mashhad is noticed as one of the most sacred and religious cities of Iran, and this city is the most accessible way to Afghanistan and Turkmenistan. So, in order to increase tourism and hospitality industry managers and planners should pay attention to this city.

In fact, there are some important agents that are beneficial for Iranian industry of tourism and hospitality. For example, the level of people's revenue and their lifestyle experienced some positive changes in the recent years. Almost 20 million tourists traveled to Mashhad for pilgrimage in 2005, which indicated the significance level of tourism industry in Iran especially in Mashhad. Most of the pilgrims are coming from Islamic countries like Kuwait, Iraq and Pakistan, as a result the tourism industry and the holy shrine has positive impacts on economy of Iran and Mashhad. As Zolfaghari (2011) stated, according to statistics and government predictions, over the next 20 years the tourists who travel to Mashhad will increase to 46 million every year. Recently, the people especially Shiites are persuaded by Astan-e- Quds to visit holy shrine and Mashhad.

Mashhad attempted to attract more people after Islamic revolution, therefore this city has been converted to metropolis and set some policies and strategies in order to increase more facilities. According to (Momeni, 2008), after war and revolution, the number of domestic tourists who traveled to Mashhad developed to 32,810,213 and in 2006, approximately 695,000 foreign tourists visited Mashhad.

The most significant touristic city in Iran is Mashhad, which attract a lot of tourists annually and also this city is known as a religious place for pilgrimage (Momeni, 2008). As mentioned before according to the statistics, annually 27 million tourists

visit Mashhad, which promote development in tourism industry. Beside the religious attraction, the cultural and historical places are the major agents to attract visitors from throughout the world (Moradi, 2010).

The expansion of Mashhad's population and the lack of managers and planners lead to some problems regarding planning. Also, it should be mentioned that collaboration among private associations and governmental organizations is another problem for planning (Momeni, 2008).

Chapter 4

METHODOLOGY

4.1 Qualitative and Quantitative Research

Qualitative and quantitative methods are the two types of research techniques, which are utilized by scholars, these methods, are noticed as a combination in several researches. As Strauss & Corbin (2002) stated, investigators in qualitative research attempt to establish a standard method of opinions to appear. According to (Creswell, 2003; Robb et al., 2014) in order to meet the goals of research, the qualitative research design to analyze and collect the data was selected for 2 reasons; firstly, the investigation should comprehend the contributors' perception of research, secondly, on the investigation relevant to an existing new subject, there was a shortage of investigation.

The confirmations that are utilized as numerals are considered as a quantitative research, on the other hand the information that includes the confirmations as words, optical illustrations or voices are the qualitative research (Neuman 2009). The qualitative investigation procedure is related to evaluating and discovering the conduct, feelings and experiences of human. Discussions, questions and case studies are used in this method (Salkind 2009).

Whereas, the quantitative investigation procedure is related to collecting numeric information. Providing questionnaires is the most important part which is required in

this method. The important role of qualitative investigation procedure is authorizing the investigator to gain the experiences, interior feelings and believes of the contributors or the respondents Strauss and Corbin 2002). According to (Gliner and Morgan, 2000), the important role of quantitative research is enabling the investigator to measure and interpret attitudes, conducts and emotions in a numeric method.

As Golafshani (2003) stated, providing hypotheses and theories is the first goal of using quantitative research procedure. As a result, deductive method is related to quantitative procedure. In qualitative investigation procedure, the data gathering is done through open-ended questionnaires, interviews and pictures (Skinner 2009). So, the qualitative investigation method is connected to inductive procedure as the investigator generalize the opinions and movements from more particular examination to more general objects to create new theories.

4.2 Qualitative/Inductive Method

A qualitative research has been used for this study, because it permits the researcher to empirically investigate the barriers to adoption of technology in hotel sectors. In fact, the qualitative research helps to conduct a deep comprehension of a given problem from the perspective of the local people, how do people experience and deal with the specified problems and also it is helpful when there is restricted information in an area of investigation.

The qualitative method is utilized as a tool in order to search behaviors, actions, social-cultural information and beliefs of responders to completely show the image from all corners and discover suitable solutions for the problems. Also, it should be mentioned that the researcher can achieve important and firsthand information about social

(Ritchie et al, 2003). The major privilege of qualitative research is that, this research design has the potential to give a lot of information achieved from a big number of people.

In fact, the qualitative research method makes much easier to understand information about human side of a special difficulty that is related with inconsistent conduct, views, beliefs, attitude and feelings. Conception the complicated fact of a specified situation is certainly attained by using the qualitative methodology.

As Brannen (2017) stated, the qualitative research design aid the investigators to achieve a smart perception of the responder social world's, and give the opportunity to the researchers to be more flexible to question how and why. The most important section in qualitative method, is that the investigator must attentively listen to the responders and make them participate according to their various characters and mentalities to explore major contributor answers.

4.3 Target Population

According to Borg and Gall (2009), the target population is a general complex of research of all members of genuine or theoretical complex of individuals, occurrence or items to that a researcher want to infer the outcomes. In this study, the target population will be seven 5 stars hotels and seven 4 stars hotels which are located in Mashhad, Iran.

The five stars hotels include: pardisan hotel, Homa 1 hotel, Homa 2 Hotel, Negin Pasargad hotel, Almas hotel, Darvishi hotel and Sinoor hotel, the four stars hotels are: Bakhtar hotel, Gam hotel, Mashhad hotel, Mashhad Bozorg hotel, Farhang va Honar hotel, Atlas hotel and Aban hotel.

The five- and four-stars hotels which are in total fourteen, have been chosen in order to determine the barriers to adoption of technology and the policies of managers to remove these barriers. According to Mugenda and Mugenda (2003), According to Mugenda (2003), the target population should contain noticeable features to which the research intents to generalize the outcomes of the study.

4.4 Sampling

As Salkind (2009) stated, the sampling procedures are categorized in two major groups, which include, non-profitability and profitability. For the purpose of this study, purposive sampling which is within the non-probability domain is applied. The non-profitability sampling procedure is related to qualitative investigation method. However, the profitability or accidental sampling point out to the designation of sample accidentally and totally by odds without election standard and it should be mentioned that this sampling procedure illustrated a bigger group of people.

In both qualitative and quantitative method, choosing a suitable sample is critical in a study. The qualitative research design does not compulsory to collect the data from all people in a given society to attain correct and reliable information. As a qualitative investigation, purposive sampling has been utilized as the appropriate sampling procedure for this thesis. As Salkind (2009) stated, the purposive method allows the investigator to choose the required sample according to the investigator's own judgmental standards of the people who the researcher assumes are more effective for the aims of the research. In this kind of sampling method, the responders are chosen based on their knowledge to the investigation subject and specific question (Ritchie et al, 2003). In fact, sampling is choosing a specified number of topics from a specific people as representative of all those (KILALI 2016).

In sampling method, the chosen population are specified and a number of topic will be answered (KILALI 2016). The respondents of this study were selected from general managers of five- and four-stars hotels in Mashhad.

In qualitative method, the sample size is limited section of a statistic population whose properties are surveyed to achieve data about the entire research. In fact in this kind of studies the other standard is the sample size, which are based on the research purposes, accessible resources and time.

Briefly, when new information is not giving new insight and responses to investigation questions and also the investigator is saturated hypothetically, therefore the sample size is sufficient.

14 contributors from the hotel sectors in Mashhad were selected as the sample of this research. According to Bryman (2012), however the investigation questions act as an explanation to understand what group of contributors require to be concentrated and sampled.

4.5 Research Instrument

In-depth interview has been used to collect the data in this qualitative research. This method of research allows the investigator to carry out interview people individually in order to discover their perspectives, opinions, behaviors and notion. In addition, with the help of in-depth interview, the interviewer can get information of the responders on a specific topic.

If the in-depth interview is carried out gently and in a friendly environment to collect the information, the responders felt more convenient as a result, they are free to share their experiences, perceptions, information and their opinions.

However, they may be some problems in the procedure of collecting data, because the interviews may be time consuming to gather and analyze them particularity or the answers of interviewees may be one-sided. But in-depth interviews are the useful tools to get experiences, information and emotions of responders for the investigator.

4.6 Data Collection

The qualitative procedures are generally more flexible, as in order to research the barriers to technology adoption in hotel sectors in Iran Mashhad, this study has utilized in depth semi-structured procedure like open ended inquiries for an in-depth interview, so the contributors are free to respond the questions in their own particular manner.

According to (Zikmund et al., 2009), the semi-structured method would be efficient in exposing the contributor's experiences. Interview with managers is one of the good manners to respond questions like how long, when, why and where. The investigator can collect the information in a more detailed way and deeper by searching within the interviews.

The relation among contributor and investigator within the in-depth interview is less official and friendly that aid the investigator to collect detailed and important information. In addition, open ended questions help to bring opportunities to the investigator to answer directly to participants' responses and connect it to other questions later. As mentioned before, the purposive sampling strategy (Creswell, 2013) has been applied in order to gather the data in this research. In this study,

qualitative method and purposive sampling strategy (Creswell, 2013) has been used to investigate the barriers to technology adoptions which hotel faced in Mashhad Iran. Generally, 11 semi structured, in depth interview questions have been provided to responders who were general managers of 14 different hotels, the reason that general managers have been selected for collecting data is, they are aware about what is going on in hotel, and they should decide when and where technologies should be adopted.

The data collection process has done during August and September 2019 in Mashhad. Before starting the interview, an appointment was fixed with each contributor. Totally, 14 general managers were interviewed for this research. The interview questions contain two parts, part one included some general information about hotel and the position of interviewee and part two include the main questions about the barriers which hotels are facing in Mashhad. Each interview was conducted between 20 minutes to more than 70 minutes. All the interview questions translated to Persian language and again translated back to English for analysis. The voices of interviewee recorded to understand their accuracy and to simplify the precise analysis. It should be mentioned that along with recording the voices, taking the notes was also an important part of the interview. In this thesis the interviewees had the right to recede from the interview without putting pressure on them or justify their action.

All the interviewees agreed to record their voices in front of them and they were free to turn off the device whenever they wanted. Also no one of the interviewee turned off the device within the process of collecting the data. They were asked about the general information about the history of hotel, the position of interviewee and their education. All 14 responders were male and there was one female that did not agree to interview. As mentioned above the questions were asked in Persian language. All the interviews

have conducted individually and face to face, all the interviews conducted in the office of general managers in the hotel for the convenience of the interviewees. In fact, providing a convenient environment makes the interviewees share their knowledge, opinions and viewpoints better and they feel much relaxed.

Table 2: Categories of Four Stars Hotels and Responders

Position of Responder	Education of interviewee	Age of the establishment	Number of rooms
1.General manager	Chemistry bachelor	98 years old	36 rooms
2. General manager	Bachelor of hotel management	33 years old	154 rooms
3 General managers	Bachelor of Accounting	45 years old	136 rooms
4. General manager	Master of Industrial Engineering, graduate diploma in hotel management	45 years od	137 rooms
5. General manager	Bachelor of tourism management	7 years old	76 rooms
6. General manager	Bachelor of tourism and hotel management, master of MBA	44 years old	190 rooms
7. General manager	Bachelor of tourism management	11 years old renovate 3 years go	60 rooms

Table 3: The Classification of Five Stars Hotels and Responders

Position of Responder	Education of interviewee	Age of the establishment	Number of rooms
1. General manager	Bachelor of management	17 years old renovated 3 years ago	162 rooms
2. General manager	Master of Management	26 years old renovated 2 years ago	206 rooms
3. General manager	Bachelor of German Language, master of tourism and hospitality management PhD of business administration	46 years old renovated 3 years ago	135 rooms
4. General manager	Bachelor of management	4 years old	112 rooms
5. General manager	Bachelor of tourism and hospitality management	6 years old renovated 4 years ago	163 rooms
6. General manager	Bachelor of Civil Engineering,	8 years ago	223 rooms
7. General manager	Associated degree in industrial electricity	4 years ago	268 rooms

4.7 Data Analysis and Findings

The main goal of this research is to investigate the barriers to technology adoption that hotel industries have always been faced in Mashhad city. As a result, to figure out these barriers in hotels in Mashhad, the general managers have been participated in this study.

In order to achieve the aim of this study, these following aims are created:

- To get a general idea about main barriers in technology adoption.

- The type of technology that hotels adopted.

- The benefits that hotels are achieved of adopting technology.

- Explore the new technologies that are beneficial to environment.

After the process of data collection, the analysis of data is carried out. The inductive method is used to analyze the information, which gathered from the responders (Miles et al., 2013). All the interviews were accomplished with smart phone and later they were transcribed. For the purpose of this study coding method, which is one of the important approaches to analyze data, utilized. In the meantime, Atlas-ti8 (https://atlasti.com/product/v8-windows/) software are used. This software is a qualitative method which is used for data analysis containing pictures, audio and videos. In qualitative method, these are the most helpful tools. The subsequent step after gathering the information, is classifying them into parts and separate them according the subject of each question. Codes and given classifications were specified and the interview were categorized according to particular subjects.

According to (Crawford, F. 2007) the part of coding is very important to distinguish, comprehend and correct the main concept in the procedure of qualitative study.

In fact, analyzing the data must be done after interviews, due the recent opinions that the investigator achieved in meetings. In addition, it is very significant to divide collected data into appropriate and classified groups for the aim of the research considering the reality that responders provided many information. Generally, the procedure of data analysis has been done in a fluent way, as a result, the process of investigation advances.

First of all, the voices of responders have been listened carefully many times. It is very important part to figure out the information correctly. Secondly the important questions have been identified which are helpful in the process of analyzing.

Then the next step is classification the information that is called Coding. In this step recognition of topics and their organizing in a relevant classification can take place. Data analysis procedure come after recognition of topics between classifications. And at last, commentary of all the classified topics are carried out in the findings.

With the use of inductive method to analyze data, all the gathered information from the semi-structured interviews are analyzed and classified topics. With classified the codes and collected data into groups and categorized the subjects of each question, cause to the ultimate outcomes.

Table 4: Analysis of the Data Matrix

Code/ theme	Sub-theme	Frequency
• The barriers of technology adoption	• Sanctions • High cost of using technology • Political problems and rules • Inaccessible tools • Lack knowledge of people • Economic situation • Lack of infrastructure • Investor's fears of financial failures • Lack enough budget • Resistance and lack of skilled employees	11 7 6 3 4 5 3 6 4 4
• Type of technologies	• New air conditioner • Specific software in reception section • Advertisement in social media • IPTV • Staff equipped with a tablet • IT system • Electronic door locker • BMS • Installation of new pumps • RDF • Green room service • CRM, CEM • Window sensor	5 3 4 8 3 5 3 6 5 4 4 3 5
• Benefits of technology	• Time saving • Guest satisfaction • efficient operation • Better service delivery and quality • Loyalty of guests • Financial benefits • Energy reduction • Cost reduction • Less errors	8 6 4 4 6 7 8 5 4

• Training staff for new technology	• Especial associations related to tourism industry	5
	• training sessions inside hotel	7
	• continuous education system	5
	• hire experienced employees	5
	• traditional way of education	4
• Guest's perceptions	• Guests don't care about using of technology	5
	• some customer compare the technology of hotels in Iran with other countries	4
	• Adoption of IPTV according guest's demands	3
	• Using electronic survey forms for guests	4
	• Some Guests are not interested to communicate with hotel managers	5
	• Guests are very satisfied about the technologies adopted in hotel	4
• Investment of technology	• The budget does not afford to governmental hotels	4
	• We are interested to reinvest technology in order to receive benefits	11
	• We want to invest but we don't have enough budget	4
	• Our hotel is chain and governmental, we can only suggest	3

• Government support	• Government doesn't support us	Confirmed by all interviewees
• Benefits of environmental technologies	• Some of new technologies are because of environment	7
	• We reduced the use of paper	5
	• We had new technologies to save water and energy more	6
	• We used photocells for lights	4
	• Applying some environmental technologies are costly	5
	• Following green room service	2
	• Following green hotels rules	4

As it is shown in table 4.3 one of the most important barriers which hotels are faced in Iran are sanctions. Almost all general managers confirmed that sanctions affected negatively on technology adoption in their hotels.

4.7.1 Sanctions

According to the analysis of data, the first and the most important problem for hoteliers in Mashhad, sanctions were the most important barriers for them. As discussed before in literature review, according to (Stephen Pratt & Valiollah Alizadehb, 2017) sanctions negatively affect the allotment of resources, therefore the economic system of target country will modify.

In relation to question on barriers to technology adoption interviewee 4 (four stars hotel) stated: "Today we have a lot of problems to import the foreign tools in our hotel because of sanctions, if we imported them, they are not supported in Iran."

In addition, he added: "Because of sanctions the prices are high if we want to adopt new technologies, we have to pay a lot of money, in fact because of sanctions we are not allowed to enter new devices in our hotel."

He also went on to explain: "Nowadays, some exchange shops stopped to transacting in Iranian currency recently, due to the collapse of Toman."

The effect of sanctions contains several features. The relations of Iran with other countries have been almost ceased. Canada and Europe countries cut down the collaboration with Iranian Central Bank and there is no trade with Iranian companies (Banafsheh M. Farahani and Maryam Shabani, 2013). Also, it should be mentioned that in 2010, South Korea and Japan boycotted any trade dealing with Iran.

In this field, interviewee 4 (four stars hotel) declared: "International tourists don't use credit card, our guests pay cash or they use international currency, they can exchange here or they pay with that international currency, in our hotel we change, or they come with their tour leader, the tour leader is come from Iran who connect with the guest country and they can by the leader. But some hotels which work internationally, the 5 stars hotels in Mashhad usually work like that, they have agent in other country so they can use credit cards and pay online."

Or in this regard Interviewee 6 declared (five stars hotel): "We wanted to buy a software which is related to financial activities, but because of sanctions, we are not able to buy, because it should be connected to the international banks' systems, which is also difficult for our international customers to access their account. Definitely, the sanctions affect to our business so much."

Also, interviewee 2 (five stars hotel) declared: "Sanctions are the main barriers in our hotel. For example, each tourist paid 100 dollars for each room but now the price decrease to 25 dollars per night for tourists. In fact, the value of Iranian currency doesn't let the hoteliers adopt new technologies, sanctions do not lest use technology."

4.7.2 High Cost of Using Technology and Lack of Enough Budget

The other factor which was repeated by interviewees was the high cost of using technology and political problems and rules. Mostly the general managers declared that the primary high cost of installing and purchasing of technologies and also the lack of enough budget usually barricade them to adopt technologies.

For hotel industries the biggest obstacles are the existence of enough budget and required possible area to adopt and implement technology (Eric S. W. Chan, Fevzi Okumus, Wilco Chan, 2015).

As interviewee 2 (four stars hotel) added: "The important issue is the high cost of technology related to hotels which is relevant to sanctions and high rates of dollars and the existence of political issues. I believe that all these problems are interconnected, in fact the existence of any these problems caused subsequent problem."

Interviewee 7 (five stars hotel) mentioned that: "Nowadays, the high costs have affected everything, so the hotel industry certainly had some effects, buying and adopting technology is very costly. As a result, some hoteliers stop to adopt technologies or they adopt step by step. For example, we adopt technology whenever we have a lot of profit then we start to apply technologies or changes."

Interviewee 3 (four stars hotel) mentioned that: "All managers agree to adopt technologies in their hotels because of the services and the facilities that bring for the customers which is very beneficial. But the serious problem is the budget, for example IPTV today costs more than 200 million Toman (Iranian currency), we couldn't afford to spend that much money, so we brought mini IPTV, It is not that much extensive like IPTV that needs cabling behind the wall, so mini IPTV was more useful for us last year we expended 40 million Toman, but now it costs more than 80 million. Sometimes we wanted to adopt new technology but because of the lack of enough budget we stopped."

He added: "In fact due to the excessive hardening of rules, technology adoption is becoming much more difficult. And the most important issues that limits the adoption of technology, is the bad economic situation. For example, we want to import some tools but unfortunately because these tools are made in Japan and Iran is boycotted, it is very difficult to get these tools, and they are not supported here."

4.7.3 Political Problems

As discussed before in literature review, according to (Butler & Suntikul, 2017) politic and tourism industry are two interlaced issues, the political issues affect the tourism industry significantly.

Despite in Iran there are attractive places for tourists, but in recent years the continuous variations in economy and politic situations of Iran have enormously affected the tourism industry in Iran (Shahram Salavati, Noor Hazarina Hashim, 2014)

As interviewee 3 (four stars hotel) stated: "The hotel industry in Iran is related to the politics ,so the political situation in Iran affect the hotel industries, for example the

increased tension between Saudi Arabia and Iran which Iranian protesters burned the embassy of Saudi Arabia caused significantly reduction the percentage of Arabs tourists.

Saudi Arabia banned travel to Iran and some other countries like Bahrain and Kuwait refused to come to Iran so, our Arab guest's incomes decreased as a result the foreign guest profits were halved. After this tension the hotels lost almost 40% of their guests." Interviewee 3 (five stars) declared that: "Actually because of the political problems and sanctions. The hotel industry, like other industries has some limitations, the proper and easy accesses to the new technology in all over the world, so one of the most important factor is the difficulties of getting the new technologies."

Interviewee 2 (four stars hotel): "Due to the existence of political problems in order to attract international tourists and the problem of visa process for western counties. Because of the current political situation, hotel maneuvering is very limited in attracting tourists and adopting new technologies."

As interviewee 5 (four stars hotel) stated: "One of the issues that curtail the technology adoption in our hotel is the rules of our country, most of the technologies are not accepted because of political rules that some governmental organs ratified."

4.7.4 Resistance and Lack of Skilled Employees

Other factors of barriers that respondents explain about it were lack knowledge of people and skilled employees. As some respondents stated, there is a fear of using technology among employees, in another word, they are resisting to use technology. Convince employees about using and adopting new technology, it requires a significant effort.

As discussed before in literature review, according to (Deependra Sharma, 2016), the guest satisfaction and experiences are increased by technological facilities, because they are guest centric and also ameliorate the efficiency of employees.

Interviewee 2 (five stars hotel): "Employees most of times are resisting to learn new technologies, for example we applied tablet for our waiters, but they prefer to use paper; in fact it took time too much to convince them to use technology." he also added:" we have a lot of problem in our education system, we have trained them but they don't have experience in this field, so we have to train them more."

As interviewee 3 (four stars hotel) stated: "When we want to adopt a new technology, the staffs refuse to accept because they face some new changes. Normally when the employees are doing routine work it will be difficult for them to change the routine work. For example, when we adopted tablet instead of using paper for a while they resisted, but when they used, they were satisfied. Whenever we adopted a new technology, we faced employee's resistance. But after applying when they receive the positive results of technology adoption, they are encouraging to use technology more."

He also added: "Providing skilled human resources is the main problem; not only in hotels in all business. For example, the number of people who have enough information and who are interested to their job is very rare. These problems are related to our education system, because we don't have expert teachers, especially in hospitality industry."

As interviewee 6 (five stars hotel) stated: "I think which is very important the employees in the hotel are not educated enough about technologies, in hotel sectors, the personnel are not trained and they always scare about using technology."

4.7.5 Lack Knowledge of People

In the field of low knowledge of people about technology, interviewee 3 (five stars hotel) stated: "Some people don't know how to apply technologies in hotel rooms. For example, we applied RDF system (resource description framework), this system controls the heating and cooling system, turning on and off the lights and dimming the light, but our guests don't know what it this system for or how it works. In case of opening the window, the RDF system and Air conditioners stop working, mostly, people want to use the old technology. The low information about new technologies is other problems for hoteliers."

According interviewee 7 (five stars hotel): "Adopting new technology is very difficult process, and employees are not enough knowledge."

As interviewee 4 (four stars hotel) stated: "The use of technology generally depends on guest level, that a person does accept to apply the technologies or not. In Mashhad, most of international tourists are the pilgrims old generation, they don't even enter the internet password by themselves, using technology speed up the service delivery but some of the guests don't want to use this technology, this is example, not only in our hotel in all hotels exist."

In this filed interviewee 3 (five stars hotel) expressed that: "Old generation do not care about these things, it is not important for them. Maybe their information is not enough to use technology, you know, this hotel is located in religious city, the people come

here to pilgrimage, meditation as a religious tourist. Sometimes, it is funny for us that these types of tourists are not fascinated by new technologies. They want only to sleep in a nice room and good meal. We have a catalogue we put it on the bed that we declared, we explained how to use for example IPTV, but they don't even read this catalogue. So, it means that we have to educate and train, it must be a part of culture."

4.7.6 Economic Situation and Inaccessible Tools

According to (Khodadadi, 2016) the industry of tourism can increase significantly, if economic sanctions will be removed. In fact, Iran became a negative destination for tourists because of economic sanctions. In addition, the process of visa for Western countries is very long. Also, Hooper (1992) indicated that, the accessibility of capital is a significant factor of technology dissemination.

As interviewee 5 (four stars hotel) stated: "The economic situation and the type of tourists who travel to Iran, with this economic situation we can't smarten up hotels. A hotel which build a smart hotel in Mashhad competes with 563 hotels, so they can't with their human services justify their services."

Interviewee 3 (five stars hotel): "We have different type of technologies, different type of qualities, we access low quality technology and this is the problem because after function, let's say after start to use these technologies, the problems appear because the quality of technology is not what we expected, then we have to invest more money for to support maintenance for kipping the system up-to-date. So number one is accessing the new technologies in general and second is the limitation to access high quality technology."

Interviewee 7 (four stars hotel) declared that: "Today, people are not able to travel, in fact because of bad economic situation. The number of domestic tourist is increasing recently, as I said they are not able to travel even inside the country." Also, interviewee 3 (four stars hotel) mentioned: "Mostly hoteliers are waiting for the political and economic situation to stabilize, but with all these problems we invested in technology adoption but this is not our ideal situation."

4.7.7 Lack of Infrastructure

As Bookman & Bookman (2007) stated, a wide and effective infrastructure is an essential agent to the economy of a country. According to (Hope, 2010; Tribe, 2004) in fact inefficient infrastructure may cut off the international competition and economic growth of a country. And also according to (Suleiman & Albiman, 2014) the existence of tourism infrastructures can develop and enhance tourism via creating accessible travel easements to travelers. And also as discussed in literature review before In fact the lack of appropriate infrastructures in Iran are essential problems which cause retardation of advancement the tourism industry in this country (Ahadnejad Raveshti & Salehi Mishani, 2012; Soleimani Moghadam & Islami, 2011; Samadian, Hoseini & Rauf Ava, 2009).

So, in this case, interviewee 5 (five stars hotel) stated: "Well, the necessary infrastructures are not provided in Iranian hotels."

Interviewee 6 (four stars hotel) stated: "We want to adopt new technology; we have to prepare hotel infrastructures. For example, we want to smarten up the locks in hotel, but this process needs some infrastructures that the software, the door should have this ability, it requires a series of wiring and there some difficulties that the old hotels which keep old hotels out of update. But in this case, maybe the owner doesn't want

to update the own hotel. If the owner support and rooms reconstructed deeply, most of technologies can be applied in old hotels, such as IPTV."

Interviewee 1 (five stars hotel): "The most important problems in our hotel, are the costs and the lack of infrastructures, I mean, if we want to apply BMS system in our room or other technologies, we should destroy our other infrastructures, for example, a door of room that is not connected to the BMS system, when we want to apply BMS in the door is very costly. The whole framework, the lock and television system must change. The television should be smart because it should support IPTV. So, the cost of construction and reinstallation and the cost of pieces. For example, when we could change a room and update the technology, before if costs 10 million Toman now we should pay 30 million Toman because of sanctions."

4.7.8 Investors' Fear of Financial Failures

Some of the respondents indicated that the investor's fear is an essential factor of barriers of technology adoption, in fact they cannot risk to invest all money in hotel.

Interviewee 6 (five stars hotel): "The owner or the investors do not believe that with the use of technology the costs are reduced in the long term significantly, because at first, they should invest a lot of money, they scare that they don't achieve adequate profits."

Interviewee 3 (four stars hotel) indicated that: "Investors stopped to invest in technology, because suddenly because instability of politic situation, they are not sure that they can achieve profit of investing new technologies."

interviewee 6 (four stars hotel): "In the field of renovating and adopting new technologies there are some difficulties, most of hotels in Mashhad are old, so it require a huge amount of money to renovate and adopt new technologies, as a result in this case owner and investor do not support and do not invest money. If they want new technologies can be applied easily."

Interviewee 7 (five stars hotel) also added: "The owner or investor invest money to build hotel but had no information about hospitality or tourism industry. So, when we want to adopt technology in our hotel, they may not accept because firstly, they should pay more money, secondly, they are not aware that the use of technology can reduces the costs in long term."

It is clear that the investor's fear and the lack of their support can considerably affect refusing technology in hotel. In relation to question the way that general managers remove the barriers to technology adoption, the interviewee 1 (four stars hotel) and 7 (five stars hotel) declared: "Increasing the cost of rooms besides decreasing the services and qualities for guest."

Interviewee 7 (five stars hotel) added: "Unfortunately, sometimes we have to reduce our services, we have no choice. Mostly, the hoteliers have to do it, they don't want do but they must do. For example, this hotel is 5 stars but the services are like 4 stars hotel. Because the costs are high but there are no enough tourists and enough incomes. And the guests are not satisfied because they have no idea what is going on in hotels."

In this field interviewee 3 (four stars hotel) expressed that: "We are offering discount to our loyal customers, as much as possible we try to satisfy our guests, we are

watching our staff's behavior too much, we also offer free high speed internet, online reservation through our website and also quality of food is very important for our customers, in this case we tried to provide our guest with a wide variety of high quality food, so our customers are encouraged to come back to our hotel. I should mentioned that most of our customers are permanent customers. But over the years, we've tried to upgrade our hotel in the software, space improvement, infrastructures, changing decoration and also promote the heating and cooling system."

Interviewees 4 and 5 (four stars hotel) declared that, training their employees are one of their policies to remove these barriers. As interviewee 5 (four stars hotel) expressed: "Well, the most important policy that we applied, is training our employees, and according to financial turnover, take the hotel to a level where we can adopt technology step by step."

But almost more than half of the respondents declared that, they use local tools and device for their hotel, because as discussed earlier sanctions negatively affect the tourism industry.

As interviewee 3 (five stars hotel) expressed: "We cannot do anything in terms of political problems, what we do is to trying to get localize, I mean automatically, the hotel industry focus on internal industries."

He also added: "The second one is maybe sometimes we have to even avoid new technologies, because we have always these problems; if something cause, if we face the problem, how can we access mother company for example if from Europe or USA

to come here, it's very costly and we have to pay a lot of money; so what we do maybe sometimes, we try to limit the new technology that might cause any problem in future."

Interviewee 1 (five stars hotel) also expressed: "Well, we localize the facilities that used in the hotels, but unfortunately, the problem here is that, these systems haven't shown the results, they may install in a hotel, but they have some errors. If we use the Iranian samples, we become involved in test and errors.

The other policy that we used in hotel, we didn't change all the rooms together, for example if our hotel contains 160 rooms, we didn't change all 160 rooms at the same time. We move step by step. In one floor we change the systems of 5 rooms, again five more rooms. In this way we reduced our costs, for example, instead of spending 1 milliard Toman in one year, we spent this amount of money in five years. Gradually we make our rooms.

We made hotel's fifth floor luxurious, but we didn't change our other floors, the next step is to change fourth floor .There are two advantages, firstly, the costs and secondly, the hotel doesn't stop working. Only one floor stop working, because we don't want to lose our incomes, and with the received income we can pay for rebuilding."

In addition, in this field interviewee 2 (five stars hotel) declared that: "We are using localization in our hotel, I mean, we are using Iranian materials and tools, because of sanctions, the foreign materials are expensive and they are not supported, so we use the Iranian products which are affordable. Actually, these pressures caused progress in our hotel, because the need has led us to improve the use of technology in the hotel."

Interviewee 5 (five stars hotel) stated: "In fact our policies in this hotel to remove these barriers are, firstly we try to convince the investors to invest money to adopt new technologies which is very difficult because of the sanctions, th0ey cannot do risk and invest a lot of money and secondly we try to train our personnel regularly and familiarize them with latest technologies in the world."

In related to the question of experienced of benefits from technologies that are adopted in hotels, all respondents confirmed that, they received many benefits of adopting technologies in their hotel and they believe that the existence of technologies has a vital role in the hotel industry, due to the help of technologies the costs are low significantly.

According interviewee 1 (four stars hotel) stated: "It was useful in terms of time saving, and in order to satisfy our guests, we have to adopt new technologies."

Also, in this field interviewee 3 (four stars hotel): "Definitely, we had benefits for example, it has been very effective in expediting the work. Naturally when the speed of work goes up the customer become more satisfied. Technology has a lot of profits."

Also, he added: "The percentage of errors in our operations has dropped significantly."

Interviewee 4 and 2 (four stars hotel) believe that loyalty of guests are the most important benefits for their business. So, interviewee 4 (four stars hotel) declared: "Sure, in hotel industry, benefit has two definitions: some times, benefit is quantitative which means you need financial benefit I mean you want the currency of the country. And on the hand, other definition of benefit means to satisfy the guest. The highest

benefit for us because our job is delivering service to people, their satisfaction is the most important benefit for us. And the guest become loyal and we encourage to ameliorate the level of our services. And we consider our major benefit of using technology in guest's satisfaction and their return. Because we believe that each satisfied guest can be marketing source or an information bank for us, because they can bring new guests for us."

In this field also interviewee 6 (five stars hotel) stated: "Definitely we had some benefits, generally the technology which is used in our hotel must respond two questions, it should satisfy our guests, or it should reduce our costs and increase our profits. Each technology that enter to the hotel industry should respond to one of these questions, if there was no benefits we wouldn't adopt technology in hotel. These benefits would be financial benefits, guest satisfaction, in fact it's a kind of profit for us, because these guests become loyal to us, because the technologies that we adopt in our hotel should answer the 2 questions and if they answers, they are accepted, as a result they were beneficial for us."

He continued: "For example, for a while, the most of manager of hotel adopted towel dryer, well, in some hotels, this kind of technology is not accepted, because, firstly did not satisfy our guest, they preferred to change the towel instead of use it again; secondly it was costly for hotel." Interviewee 4 (four stars hotel) and 2 (five stars hotel) believe that with the use of technology, their costs are reduced significantly.

Interviewee 4 (four stars hotel) expressed: "With the technology that we applied in this hotel, 20% the use of energy reduced." Interviewee 2 (five stars hotel) added: "The use of chemical detergents decreased significantly and also our costs are lower."

Chapter 5

DISCUSSION AND CONCLUSION

5.1 Discussion

This section of study attempts to comprehend what are the barriers which prevent to adopt technologies in hotel industries in Mashhad.

14 general managers in 4- and 5-stars hotel in Mashhad have been interviewed, as mentioned before, every interview carried on between 20 and 70 minutes. In fact adopting technology is essential for every business in hospitality sectors especially for hotels industries. The findings of this research showed that there are 10 types of barriers to technology adoption which hotel industries are faced.

These barriers include: sanctions, high cost of adopting technology, political problems and rules, inaccessible tools, lack knowledge of people, economic situation, lack of infrastructure, investors' fear of financial failures, lack enough budget and resistance and lack of skilled employees. Almost all the respondents agreed that sanctions are the main problem for them to adopt technologies. As stated in findings, sometimes sanctions prevent technology adoption.

High cost of technology was other barrier to technology adoption I hotel sector as indicated in findings by respondents. Nowadays because of sanctions, the managers

have to spend twice as much to buy and install new technologies in hotels. And also they don't have also enough budget to adopt technologies in their hotels.

According to the prior research (Huda and Hussin, 2010; Okumus and Hemmington, 1998a; Stewart et al., 2004), the findings showed that other important barrier contain the lack of return on investments and financial concerns by owners and investors. According to findings investors are not sure that they achieve profit with investing money in hotels also owners are not aware about the long-term benefits of adopting technology. In fact, due to the political instability in Iran, investors do not risk to invest a big amount of money.

Lack of infrastructure and economic problems are the other factors of barriers to technology adoption. As respondent stated most of hotels in Mashhad are old so it may impossible to adopt technologies or it requires too much funds to adopt technologies. Also it should be mentioned that, before adopting new technologies in hotel, managers should emphasize that the technologies are suitable with the present systems and there is any profits in adopting this kind of technology (Fevzi Okumus, Anil Bilgihan, Ahmet Bulent Ozturk, Xinyuan (Roy) Zhaon (2017).

Politic and tourism industry are close to each other as a result political problem may affect tourism industry (Butler & Suntikul, 2017). As indicated in findings some respondents stated that political problems are other factors of barriers to technology adoption.

According to the research findings, inaccessible tools was other problems for hoteliers, as respondent stated before, access to technologies and limitation to access to these tools are other factor of barrier.

According to previous research (Stewart et al., 2004), that shows, employees' persistence to technology exist in hospitality industry. As findings indicates that at first employees resist to use new technologies in their operation. And also, according to some respondents, employees are not enough educated which is related to education system or people who work in this field don't have enough experience about this industry.

According to (Okumus and Hemmington, 1998a, b) in prior research, one of the most important barriers was the resistance of staffs which could fail and waste time to technology adoption. But according to the findings of this research, this factor was not the most important barrier to technology adoption in hotels industries.

And finally, other barrier which is existed in hotels and stated by respondents is lack knowledge of people. As several respondents expressed in findings, As several respondents expressed in findings, as Mashhad is a religious city in Iran some tourist come here to pilgrimage and meditation which are mostly old generation. These types of tourists are not fascinated by new technologies. They want only sleep in a nice room and good meal. In fact, some people don't know how to use new technologies inside the rooms.

As interviewees stated the use of technology also caused to decrease the operating expenses, and it was beneficial especially in the field of environment, the usage of

water, electricity and energy reduced in comparison previous years. The findings of this study may be useful for managers of hotel to figure out these barriers of technology adoption and try to remove them in their industries.

According to the findings of this study, it seems these barriers have a preventing role in technology adoption in hotels. This study indicated that barriers to technology adoption have affected hotel industry in Mashhad, as shown before in findings the existence of these barriers such as sanctions, political problems, high cost of technology and other factors bear some difficulties for hotel industries in Mashhad in order to adopt technologies.

5.2 Conclusion

The aim of this qualitative research was to investigate the barriers to technology adoption in hotel sector in four- and five-star hotels in Mashhad/Iran in order to determine the benefits and the barriers of adopting technologies. Nowadays, tourism industry has an important role in growth of economy in some countries. Recently sanctions, especially US sanctions affected negatively the tourism industry and other businesses in Iran.

This research provides a comprehensive conception of barriers to adoption of technology in hotel industries in Mashhad, also this study indicates the important factors of barriers to technology adoption. The research questions about the barriers and the benefits of technology adoption via in depth interviews with fourteen general managers have been answered.

In this study, I found some type technologies such as BMS, IPTV, RDF and others which mentioned in findings that are used in hotels in Mashhad. According to this

study, ten barriers are existed in hotel industries in Mashhad which discussed before in findings these barriers curtail the managers' abilities to adopt new technologies.

According to the findings all managers receive benefits of existence and adoption of technologies. So, for hotel industries these benefits include, loyalty of guests, efficient operation, financial benefits, cost reduction from guest point of view: time saving, guest satisfaction and quality of service. The findings of this study propose that adoption of technology may be useful for hoteliers to satisfy their guests and provide better quality of service for their customers.

As a result, managers have to recognize the recent technologies and also the most critical thing is that they should distinguish the barriers in their hotel and with the proper policies try to reduce or remove these barriers to adoption of technologies.

5.3 Implication

The findings of this research suggest an effective theoretical implication. As expressed, before in literature, there are three frameworks in this study, which include innovation adoption model, barrier to innovation model and technology acceptance model, to identify the barriers to technology. Theoretically, suitable investment on technology may be useful for hotel industries in order to improve their services for guest, controlling costs, also increase their profitability and customer fidelity.

This study also indicates the barriers which prevent the adoption of technologies in hotel industries. As the findings show there are some important issues regarding to technology adoption in Mashhad. This study has been done by general managers in four- and five-stars hotel. In addition, all responders directly are relevant to tourism and hospitality industry. The major problem for hotel industry in Mashhad, sanctions

are the most important problems to technology adoption; as stated before in this study, following sanctions economy and political problems in terms of visa for western countries are other major issues in hotels industries in Mashhad.

Therefore, the government should invest more money in tourism sector and also it encourages the international and domestic investors to invest more in order to develop the infrastructures of tourism in Iran and Mashhad. In fact, government should apply new projects and programs to attract more tourists from all over the world and develop tourism and hospitality industry. Plus, it should mention that, government can involve private and public sectors in the process of decision making and tourism policies. Generally, the findings of this study show the barriers to technology adoption in hotels industries in Mashhad. As mentioned before in discussion and findings parts, this study suggests a new sight about barriers to technology adoption, benefits of technology and managers' policies to remove the barriers.

5.4 Limitation and Future Study

There are insufficient research and lack of information on barriers to technology adoption in Iran, especially in the city of Mashhad. There is also lack of data and published materials on this topic. Nevertheless, this study can be extended to more hotels in different locations. One obvious limitation has been the lack of time to enlarge the number of the sample. Another limitation is that the political environment is not comfortable for research and data collection. The future studies can conduct a comparative analysis between Iran and Turkey, which can contribute to managerial knowledge and their experiences. The future research may also gather data from other countries in hotel industries in order to produce a research based on cross-national experiences. Furthermore, other studies can apply a quantitative analysis about the

topic. At last, future study can be conducted in other sectors of hospitality such as airlines and restaurants to produce a result that can be generalized. To overcome the problem of barriers to technology adoption, there should be a collaboration between government and hoteliers to invest on smart tourism. There should be incentives for hoteliers to adopt innovative ideas.

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APPENDIX

PART 1

Demographic information:

- How old is this hotel?

- Position of the interviewee:

- Education:

Part 2.

1. What are the main problems that curtail technology adoption in hotels?

2. What are your policies to remove the barriers to technology adoption?

3. What types of technologies you have adopted in your hotel?

4. Have you experienced benefits form technologies that you have adopted?

5. Would you please let me observe the areas where you have modernized through new technologies?

6. When was the last time to apply a new technology?

7. How often you train your staff about adoption of new technology.

8. Have you ever surveyed the guests to find out about their ideas about technology and its benefits in the hotel ?

9. Have you ever been interested to reinvest in technology adaptations?

10. Does government encourage the hotel sector to adopt new technologies?

11. Are you aware that some of the new technologies are beneficial for environment as well as reducing the cost in the end?