

TC
ISTANBUL AYDIN UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES



**THE ROLE AND IMPACT OF E-COMMERCE IN THE INSURANCE
INDUSTRY**

MASTER THESIS

Yalda BIJANIPOUR

**Department of Business
Business Administration Program**

Thesis Advisor: Assist. Prof. Dr. Farid Huseynov

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T.C.
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My dear husband Sattar Beigmohammadi

My constant companion

FOREWORD

I would like to thank to everyone who encourage and help me.

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THE ROLE AND IMPACT OF E-COMMERCE IN THE INSURANCE

INDUSTRY

ABSTRACT

Nowadays the conditions of business are quickly changing. From a commercial point of view the Internet and information technology have a significant effect on different industries. The growing importance of e-commerce increases demand of using it in the industries and in most insurance industries as well. Electronic Insurance is a result of development in information technology and communication. In the other words, insurance operations can be done by the Internet easily. The widespread use of the Internet and increasing demand for Internet access in order to get information and goods and services has changed lifestyle in society. Therefore, insurance companies cannot ignore these requests. Insurance companies can provide their customer with better services by using new information and communications technology. In addition, electronic insurance reduce real-time of business and management costs. In this research the role and impact of e-commerce on insurance companies has been addressed in terms of that to what extent using of e-commerce reduce company's costs and boost company's competitiveness and organizational performance. Moreover to achieve this goal in this research, a framework of reference is considered based on academic journals and textbooks. This research has carried out based on quantitative data and research type is an applied research and research strategy is survey. Questionnaire was used as a tool to collect data. For this purpose, a survey of 150 people has been carried out and convenience sample selection method was used to obtain and select respondents in any departments in insurance companies in Iran.

The general conclusions made by this study identify that the Iranian insurance companies have a positive attitude towards e-commerce and they found that e-commerce would be an opportunity to boost the quality and efficiency of their business. Research finding confirm that the Iranian insurance companies would benefit from using of e-commerce in terms of cost reduction, brand and image promotion and extended corporation with partners and enhance organizational performance and competitiveness.

Keywords: *E-commerce, Internet, Insurance, Organizational performance, Costs reduction, company' competitiveness*



SİGORTACILIK ENDÜSTRİSİNDE E-TİCARETİN ROLÜ VE ETKİSİ

ÖZET

Günümüzde iş koşulları hızla değişiyor. Ticari açıdan bakıldığında İnternet ve bilgi teknolojisi, farklı endüstriler üzerinde önemli bir etkiye sahiptir. E-ticaretin gittikçe artan önemi, endüstrilerde ve çoğu sigorta sektöründe kullanım talebini arttırmaktadır. Elektronik Sigorta, bilgi teknolojisi ve iletişim alanındaki gelişimin bir sonucudur. Bir başka deyişle, sigorta işlemleri internet üzerinden kolaylıkla yapılabilir. Bilgi edinmek amacıyla internetin yaygın kullanımı ve internet erişimine olan talebin artması toplumdaki yaşam biçimini değiştirdi. Dolayısıyla, sigorta şirketleri bu talepleri görmezden gelemezlerdi. Sigorta şirketleri, müşterileri için bilişim teknolojisi kullanarak hizmetlerini daha iyi sunabilirler. Buna ek olarak, elektronik sigortalama gerçek zamanlı işletme ve yönetim giderlerini azaltır. Bu araştırmada, e-ticaretin sigorta şirketleri üzerindeki rolü ve etkisi ele alındı, e-ticaretin ne ölçüde şirket maliyetlerini düşürdüğünü ve şirketin rekabet edebilirliğini, organizasyonel performansını nasıl artıracığı konusu ele alındı. Ayrıca, bu araştırmanın amacına ulaşması için, akademik dergilere ve ders kitaplarından referans alınmıştır. Bu araştırma, niceliksel verilere dayanılarak gerçekleştirilmiş, araştırma türü uygulanmış ve araştırma stratejisi anket yapmak olarak esas alınmıştır. Veri toplamak için bir anket formu kullanılmıştır. Bu amaçla, İran'daki sigorta şirketlerinin herhangi bir bölümünde çalışan toplam 150 katılımcının ankete katılmaları için örnek seçme yöntemi kullanılmıştır.

Çalışmanın genel sonuçları göre, İranlı sigorta şirketlerinin e-ticarete karşı olumlu bir tutuma sahip olduklarını ve e-ticaretin, işlerinin kalitesini, verimliliğini artırmak için bir fırsat olacağını tespit etmiştir. Araştırma bulgularına göre, İranlı sigorta şirketlerinin partner şirketleri ile birlikte, maliyet düşürme, marka değeri artırma, imaj promosyonu açısından e-ticaret kullanımından fayda sağlayacağını ve organizasyonel performansı, rekabet gücünü artırdığını doğruladı.

Anahtar Kelimeler: *E-ticaret, İnternet, Sigorta, Organizasyonel performans, Maliyet düşürme, şirketin rekabet gücü*

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

In recent years, with the advancement of information and communication technology, many real-world interactions have been transferred to the virtual one. The most important feature of this event is that the time and place limitations have been removed and a great deal has been created for the industries and owners of international companies (Tayebi, 2007).

E-commerce can be defined any trade or transaction or information technology exchange that runs through any kind of information and communication technology (Arora, 2003). Electronic commerce was first introduced in the 1960s through an Electronic Data Interchange (EDI) and with the widespread use of the Internet and growing Internet access online transaction increased in the 1990s and early 2000s. By increasing the number of Internet users, many believe that e-commerce will become soon the main way of doing business transactions (Easton & Fife, 1991).

Insurance companies in Iran have similar behavior to most other countries and using of internet is considered as a channel for communicating and advertising. As a result of information technology growth, electronic insurance can be a useful recommendation and opportunity in Iran (Fanaie, 2004).

Companies to achieve a favorable outcome and before implementing this system, must be organized a strategic plan and infrastructures and identify the strengths and weaknesses (Dessler, 2014).

1.2 Problem Statement

E-commerce has made major changes in transactions. It has several effects on various fields of goods and services including having access to different sectors, accelerating the communications process and improving access to information (Dessler, 2014).

The insurance industry plays a vital role in any transaction since any companies should make their business safe. Consequently, electronic business needs electronic affairs such as electronic insurance (Annan, 2003). Electronic insurance is one of the important sectors of the business, which eliminates time and place limitation and other advantages can be mentioned are increasing sales volume, facilitating access to information, reducing cost transactions, improving customer orientation, specializing of activities and changing of structure the sales network (Ebrahimi, 2006).

Electronic insurance is one of the applications of Internet and technology which is used for the production and distribution of insurance services. Electronic insurance is the use of information and communication technology in the kind of the activities of insurance companies, including domestic and foreign exchanges in order to facilitate insurance affairs (Ebrahimi, 2006).

Electronic insurance is defined as a wide range of programs for producing and distributing insurance services. Electronic insurance provide customers with access to used insurance services easier and instant (Chang, 2014). In the other word, electronic insurance means using electronic methods for helping to exchange commodities and insurance services. Electronic insurance is the most important tool to transfer information and connecting to customers. Therefore, electronic insurance requires a series of infrastructure including the development of the use of information, preparing and implementing of the laws and adopting of digital information in the insurance industry (Brussels, 2002).

The Internet can boost the quality and efficiency of trading in the insurance market, by reducing time to market and having access 24-hour, increasing customer satisfaction, improving company's performance, reducing administrative and marketing costs and increasing company's profitability (Dasgupta & Sengupta, 2002).

Iranian traditional insurance needs to adapt new technology. Thus, they can take advantage of the opportunities that are offered by this technology. Traditional insurance companies in Iran may avoid using this system in the short run but they have to accept it to stay competitive market in the long run (Alipour, 2011).

What duties and responsibilities do insurance companies should undertake in the process of using of e-commerce? What barriers and major problems do they encounter? These can be a new study and new survey but the first important step is making insurance companies aware of advantages of e-commerce and encourages them to use electronic commerce. In this research the significant effects of information technology on insurance industry particularly in Iranian insurance companies and decisive factors are considered.

1.3 Purpose of Study and Research Questions and Hypotheses

A first glance, there are numerous surveys that can be done by researchers about e-commerce in insurance market in Iran and this research will be one of the several steps that are necessary to encourage companies to use e-commerce. The main purpose of this research is intended to address the role and impact of e-commerce on Iranian insurance industry and to achieve this goal the impact of using e-commerce on reducing company's cost, company's competitiveness and organizational performance is examining.

In this research, the following question is considered as the main question:

What is the role and impact of e-commerce on Iranian insurance companies?

Three research hypotheses have been extracted based on relevant articles and available literature and for this purpose, the research hypotheses are specialized in following:

- **H₁**: there is a positive relationship between using of e-commerce and reducing cost of marketing
- **H₂**: there is a positive relationship between using of e-commerce and company's competitiveness
- **H₃**: there is a positive relationship between using of e-commerce and organizational performance

1.4 Importance of Study

Human lives in a period that electronic commerce plays a vital role in trade and business due to the widespread use of information technology. Thus, traditional commerce loses its important and the significant effects of IT industry, e-commerce and electronic data become stronger and more outstanding continuously and vast industries have been adopting the huge change in the world (Easton & Fife, 1991). Using computer and information technology make industries more competitive and dynamic. Therefore, every industry can boost their quality and efficiency of organization by using e-commerce (El Monayery, 2015). The global market is gradually changing and the widespread use of the Internet is increasing. As a result, insurance industry cannot ignore this fact (Garven, 1998). Today, it is undeniable that, every industry need informational technology to stay in competitive market and e-commerce can be considered as a strategy for insurance industry to participate more in this market and also it can be considered as a channel for communicating and advertising. However, growth information technology can be useful opportunity for all industries (Samuel & Certo & Trevis, 2012).

The insurance industry is one of the most essential sectors in the financial services industry since plays an important role in growth of the economy and the health of the society. For example, modern and developed countries whose economies are based on technology are more likely to be at risk. Therefore insurance companies are decisive factors in security of business and they should always be up to date (Grossman, 2004).

1.5 The Scope of Study

Thematic scope of research: In this research, the effect of using technology on insurance industry in Iranian insurance companies has been investigated.

The study period: Resources that were used for collecting data and analyzing are between 1995 and 2017.

Locative scope: Considering Tehran is an industrial and economic pole in Iran and most of the major industries are located in this city and about one quarter of Iran's population is concentrated in Tehran, this city is the best option for collecting statistical samples.

1.6 Definition of Research Variables

Independent variable: The independent variable is the stimulus variable that is measured and selected by the researcher to determine its impact or its relation to another variable. The independent variable is changed by the experimenter to determine how the dependent variable can be effect (Sakaran, 2003). In this survey, independent variable is using of E-commerce.

Dependent variable: The dependent variable is the main variable of interest to the researcher. This is the response variable (Walliman, 2011). The dependent variable is observed or measured to determine how can be effected by independent variable. The goal of the researcher is to explain and predict the variability of the dependent variable (Sakaran, 2003). This variable is predicted through an independent variable. It is possible to find answers or solutions to the problem by analyzing the dependent variable. The researcher intends to make these variables quantitatively and measurable as well as other (Bryman & Bell, 2003). In this research insurance industry is considered as a dependent variable.

Moderating variable: A quantitative or qualitative variable has effects on relationship between independent and dependent variables directly. Sometimes this variable is an independent secondary (Sakaran, 2003). In this research social media and internet are considered as a moderating variable.

Intervening variable: This variable used by the researcher to determine the effect of the independent variable on the dependent variable, but its effect is uncontrollable and acts independently of other variables (saunders & Lewis & Thornhill, 2009). The intervening variable usually does not have effect on internal and external validity of the research (Sakaran, 2003). In this study, Cultural, social, psychological and situational factors are considered intervening variables.

1.7 Structure of the Thesis

This thesis organized as follow:

Chapter 1: provides an introduction and structure of the research and the problem statement, purpose of study, research questions, scope of study and definition of research variable are stated.

Chapter 2: considers the literature review on all available articles and resources from around the world.

Chapter 3: provides research design and methodology and research approach, hypotheses and research model, sample selection and hypothesis testing method are stated.

Chapter 4: In this chapter the research hypotheses are specified and discussed.

Chapter 5: The main focus of this section r is on data collecting and data analyzing and research findings and in this chapter the data collected were analyzed by the AMOS analysis in the SPSS software.

Chapter 6: This chapter provides Research Finding and Conclusion and recommendations.

2. LITERATURE REVIEW

2.1 Introduction

From an industrial point of view, information technology has changed the structure of the industry and this great transformation has had many advantages. The Internet, as a strong and accurate instrument, plays a vital role in today's societies, both culturally and economically and politically (Kelly & Prince, 2005). If staying people in a particular area and start farming is considered as an agricultural age, the past century has been considered as an industrial age by the rapid changes in industrial artifacts and products. It is clear that the reason for this naming is increasing in speed and accuracy of information and communications and using accurate communication tools such as telephone, fax, video, satellite, and the Internet. What is the most important thing that has led to an information revolution in recent decades? It is the World Wide Web (Hajibabaie, 2004).

In the third millennium, information has been raised as an element of culture, and on the other hand, countries and nations have become closer each other and the world has become a village. Moreover, with the development of satellite communications, computer networks and the reduction of transport costs, the process of globalization will become easier and e-commerce will replace traditional commercial (Brussels, 2002). Globalization can boost quality and efficiency of business, investment, marketing, and distribution in an organization and a lot of other advantages Therefore, globalization can overcome all obstacles and provide a free trade (Castillo, 2016).

As a result of the information growth rapidly, development of technology and the communication networks has been broaden business person horizons in recent years. The appearance of new techniques and methods on production processing and transferring information causes improving communication and reducing operating costs in companies and business organizations. The new methods are dynamic factor

competitive. Thus, they have changed the business perspective in the global arena (Argaez, 2005).

According to the globalization, the value of e-commerce has risen from \$120 billion in 1999 to \$500 billion in 2016, and it is expected to reach \$10 trillion by 2020. Today, information technology is removing borders and bringing nations together in a global community. Therefore, all countries are in competition and the world is seeing a huge change every day. Marketing, banking and telecommunications have created new principles. Boring bureaucracy electronic data replaced with e-commerce gradually (Sanaie, 2001).

E-commerce provides insurance companies with countless opportunities that include access to new markets and new ways of advertising and time saving. Consequently, insurance companies are able to promote their business processes, reducing costs, increasing business knowledge and customer satisfaction (Dasgupta & Sengupta, 2002). Therefore, the Internet and e-commerce enable insurance companies to meet their customers' needs and interact with them. In addition to other benefits, the Internet allows insurance companies to collect information about customers and competitors in the best possible way. Insurers can diversify their markets geographically by eliminating traditional barriers such as geographical distances, time differences, communication costs and access to international markets, which are usually prevented companies from competing with powerful insurers (Tayebi, 2003).

2.2 The Internet and Applications

Internet is a collection of computers that communicate with telephone lines, fiber optics, satellite lines and with other transmission environments. The Internet can play different roles for different people. Internet is an environment where people can connect with relatives and friends around the world, a tool for searching any information what people want, unlimited business opportunities, including a meeting with members to solve various problems or different needs around the world. Internet can be useful for studying anything as well. Moreover there are a lot of beneficial textbooks and documents that student can use as a self-study and one of the most advantages of Internet is facilitating communication (Kelly & Brad, 2005).

2.2.1 Internet Technology

Information technology has converted into new form of widespread communication and there is no any limitation in comminuting (Goolsbee, 2000). The widespread networks Communications have brought together business buildings and offices, and facilitated interconnection within the organization, such as the use of internal electronic messages or share and use of central printers. Now, if they used computers or software, it would be difficult to establish this connection. Therefore, with the advent of the Internet Protocol, they were able to fix this problem (Tayebi, 2007).

2.2.2 Internet Services

The services have provided by the Internet are huge and expanding constantly. Here are just some of the services related to marketing and business.

E-mail: E-mail is the one of the uses of the Internet, which is currently the most consumed. The Email was originally developed by Roy Nilsson in 1972, which means sending an email or electronic message to one or more people via the Internet. The Email was initially used in 1982 with a limited transfer capacity called SMTP, but when the Internet has converted into the form of MIME in 1992, E-mail has developed gradually and it was able to sent information in various formats such as voice, image and multimedia messages (Ebrahimi, 2006). Today, in the developed countries, commercial correspondence, correspondence between universities and academic exchanges and sending all the documents are carried out by e-mail. One of the reasons for the exchange of information by email is that it can save the information as a large archive (Rose & Rosin, 2002).

E-mail- Fax: The ability to send faxes via the Internet is called E-mail - Fox. Therefore, if one of the sides does not have a computer receiver or transmitter but has access the fax machine, it can be used and send the necessary information. This is very useful for countries like Iran, which are still not widely used by e-mail (Fanaie, 2004).

Usenet (newsgroup services): Usenet is a collection of notes or messages sent by the user in various topics and post on global network. Each set of records written as a newsgroup. Usenet is based on NNTP (network news transfer protocol) or a combination

of electronic newsletters and information (Goolsbee, 2000). Usenet can be thought of as an electronic bulletin for the exchange of information. The difference between e-mail and Usenet is the information in Usenet is gathered from a large number of databases called network news (Jones, 2000). Today, there are more than 20,000 newsgroups that cover a larger several of information on the Internet. Usenet users always have access to their latest information. Companies can use Usenet to solve problems or find answers or learn about their day's business issues. In fact, Usenet can be used as a method such as Brain stormy for a group, discussion and getting the best answer to a question (Dutta & Segev, 2001).

File transfer protocol: File transfer is one of the uses of the Internet and it is the downloading files from the Internet or uploading and inserting files to another computer. Unlike e-mail and Usenet, the system is two-sided and this application allows users to obtain and transform information. One of the new forms of this is GUI (graphic) which is designed graphically and user-friendly (Fanaie, 2004).

Telephony: In fact, the use of the Internet to make phone calls is called webcam. In the past, people spoke to each other through specific software using a phone and a microphone, but today, people can talk to each other by their regular phone device and their conversation will be transferred to the Internet instead of the usual route. Because of its high benefits, especially with the extremely cheap price, this operation has almost completely replaced the regular phone for telecommunications. Some of applications that are used today are Skype and Whats App (Rose & Rosin, 2002).

World Wide Web: The WWW is the largest, most advanced and most engaging Internet service, which is the main source of success, offering multimedia features including audio, video and live streaming. This service is selected by individuals and organizations as a new way of sharing information. This is a media where any different pages with any different information can be searched easily. Easy use of the Internet is due to the type of communication between different pages called hyperlink (Jones, 2000). If there is a communication link on a title page, you can select and have access the title with the mouse. Communication links can exist anywhere on the page, and you can use them to

help. The Web was developed by a young computer scientist in 1989 at the CERN Center in Geneva, Switzerland (Ebrahimi, 2006). Browsers are software that is required to search information on the Internet. The first Browser developed by CERN was called Mosaic, but today, based on current statistics, nearly 90% of Internet user's use of browsers known Google Chrome. As the Windows operating system provided everyone with using computer easily the Web has also made it possible for the general public to use the Internet and this issue has led to increase in the number of Internet users. In recent years, the Internet has entered its third stage of its life, the commercial use of the Internet or e-commerce. There are special software tools called "search engines" on the Internet by different companies that can be used to locate all the resources that exist on a specific field on the Internet and use their data (Bardhan & Krishnan & Lin, 2004).

2.2.3 Negative Aspects of the Internet

Similar to other communication device, the Internet has merits and downsides and also has positive and negative aspects. Crimes in the virtual world is one of the most drawback of Internet since it is too hard to control crimes in the virtual world compare to real world .Table 2.1 showed that comparison the real crimes with cybercrimes (Asia Insurance Review, 2002).

Inaccurate Information: Due to the fact that there is no central control over the Internet and there are still no specific Internet rules, it is possible the Internet provides their users with malicious and inaccurate information which would be harmful to them. For instants, a person can design a fake site in the business context and people are deceived and scammed by false information (Bernoff & Morrisette & Clermmer, 1998).

Useless Posts: On the Internet, thousands of posts can be found to be completely useless such as a sizeable amount of spam that fills in the mailbox constantly (Bardhan & Krishnan & Lin, 2004).

Inappropriate news: From an ethical standpoint, there are many issues on the Internet that can be problematic. For instants, there are some inappropriate newsgroups on the Internet that are malicious and cannot discuss with members reasonably. The ethical issues that people face on the Internet have a wide range (Jones 2000).

Illegal Access: It is extremely hard to control crimes on Internet rather than real world. Therefore, some users find it easy to commit a crime compared to real world. Moreover people do not care their information on computer similar to their property since they are oblivious to some cybercrime. There are various types of illegal access on internet such as unauthorized access, theft of electronic property, disruption of other sites, activation of worms and malicious viruses (Dutta & Segev, 2001).

Internet addiction: The widespread and uncontrolled use of the Internet has become an essential debate in modern societies especially among young people and this issue can lead to Internet addiction and it seems a harmful and dangerous behavior (Bernoff & Morrisette & Clermmer, 1998).

Unwanted Information: One of the major problems that user face on Internet is unwanted information and this issue brings about serious problems for real sites and business. In most countries, governments try to raise public awareness about this problem as so to make easy to understand for people (Bernoff & Morrisette & Clermmer, 1998).

Table 2.1 Crimes in the Real World and on the Internet

Crime	Real world	Virtual world
Unauthorized access	Breaking the lock and entering	Break the username or password
Enemy with science and industry	Vandalism, intentional fire and ...	Send virus and worms to the website
Barrier production and Tumbling	Establishing physical deterioration	Attack on operating systems
Stealing money	Stealing money	Transfer funds electronically (credit cards)
Stealing assets	Stealing assets	Stealing addresses and transferring files on the Internet
Impersonation	Fake signature	Steal information codes and break e-mail lock
Misuse of company assets	invade space and company facilities	Destruction of web pages

(Asia Insurance Review 2002)

2.2.4 The Digital Divide

The digital divide or a digital split is one of the most important problems created by the advent of the Internet and has created a concern for the international community. The digital divide refers to the gap between demographic and regions that have access information and communication technology and those that do not have. This definition includes a variety of things, such as infrastructure, access to ICT (Information and Communication Technology), literacy rates and skill levels from the Internet. Moreover, the digital divide can be used to compare a divide inside a country and between its different classes of society (Rouse, 2014).

There are generally two types of ICT, digital and analogue and the impact of new ICT computers, the Internet and smart phones for instants, is more than its old ones, such as TVs and phones. Many variables, such as income, education, age, gender and geographical location, have serious effects on the size of this gap, especially for new ICTs. For example, there is a gender gap in some countries since men have access to the Internet is more than women (Goolsbee, 2000).

In industrial countries, this gap is declining, but in any case, the gap between the highest and lowest incomes still exists. As well as income, to be familiar with using computer and the ability to use new technology is one of the most important variables (Annan, 2003).

Today, different countries have begun many attempts to reduce the digital divide, including the following (Asia Insurance Review, 2002).

1. Pay attention to the infrastructure of information technology such as telecommunications lines.
2. Better access to public institutions such as hospitals, schools, libraries and research centers.
3. Providing villages with the information and communication technologies.
4. The construction of an Internet network that even illiterates can use it.

2.2.5 Internet - Intranet - Extranet

Internet: The Internet plays the important role in our life. The Internet provides the entire industry with tools to transfer information and challenges leaders, and ultimately make business novel. Institutions can use this third millennium tool to develop market, raise revenue and speed up their business. Internet is a public device and a global communications network that anyone can communicate directly through the local network ISP (Internet Service Provider) (Argaez, 2005). Table and figure 2.2 show the growth of Internet users in the world.

Intranet: Intranet provides communication between different servers, clients, and applications, including company resource planning, staff management, production centers, and other departments. The main advantage of the Intranet is the ability of user to access the Internet without need to pay for the rental of the network (Asia Insurance Review, 2002).

Extranet: Extranet is the development of an intranet by using ICP / IP network protocols, and given the fact that it is done over the Internet, there is very little security. Thus, it is necessary to create a security tunnel and give users the algorithmic permissions for this secure space. This is known as the virtual private network (VPN) (Loshin, 1997).

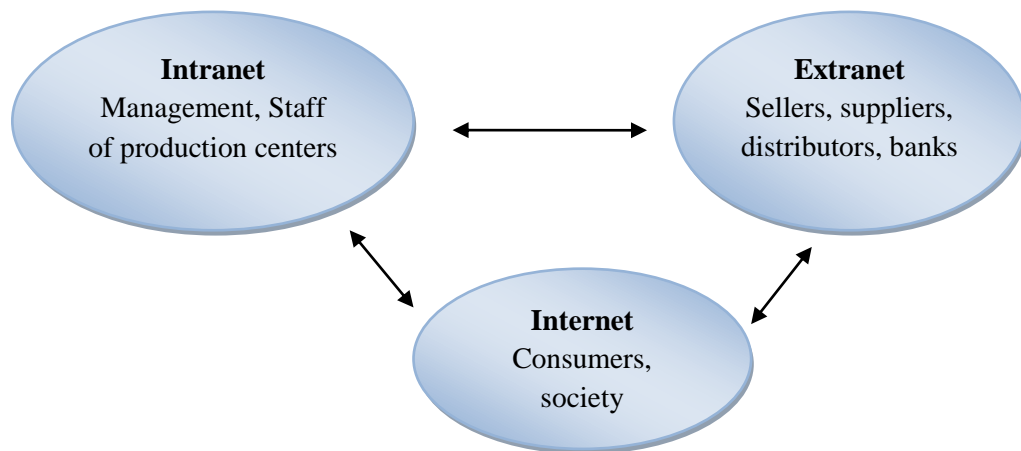


Figure 2.1: Intranet- Extranet –Internet (Asia Insurance Review 2002)

Table 2.2 Growth Of Internet Users In The World

WORLD INTERNET USAGE AND POPULATION STATISTICS JUNE 30, 2017 – Update						
World Regions	Population (2017 Est.)	Population % of World	Internet Users 30 June 2017	Penetration Rate (% Pop.)	Growth 2000-2017	Internet Users
Africa	1,246,504,865	16.6 %	388,376,491	31.2 %	8,503.1 %	10.0 %
Asia	4,148,177,672	55.2 %	1,938,075,631	46.7 %	1,595.5 %	49.7 %
Europe	822,710,362	10.9 %	659,634,487	80.2 %	527.6%	17.0 %
Latin America	647,604,645	8.6 %	404,269,163	62.4 %	2,137.4 %	10.4 %
Middle East	250,327,574	3.3 %	146,972,123	58.7 %	4,374.3 %	3.8 %
North America	363,224,006	4.8 %	320,059,368	88.1 %	196.1%	8.2 %
Australia	40,479,846	0.5 %	28,180,356	69.6 %	269.8%	0.7 %
World	7,519,028,970	100.0 %	3,885,567,619	51.7 %	976.4%	100.0

(Argaez, 2005)

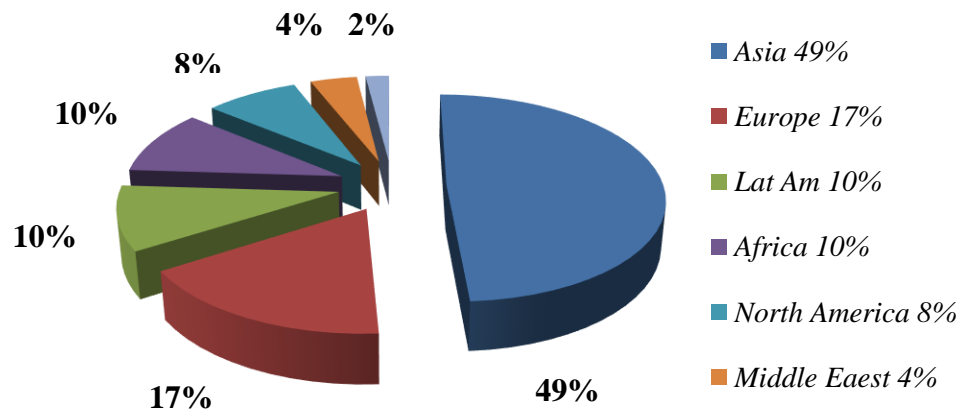


Figure 2.2: Internet users (Argaez, 2005)

2.3 History of E-Commerce

One idea state that the first transaction has done by telephone or fax was the first electronic commerce. In the 1960s, major corporations were looking for way to for information exchange simultaneously. First Internet connection was in California in 1969, two supercomputers connected to each other by 5-meter cable to transfer a few words of information. In 1994, after the introduction of the Internet at the university, especially e-mail and the advantages of using the Internet have drawn attention of the public. Then, it does not take much time to realize the Internet and its other features for the companies, and many companies put their goods on the Internet for sale (Keshtri, 2007).

It took more than 74 years having access to phone for 50 million people, and it took 48, 16, 13 respectively having access to radio, computer and television, and it took only 4 years having access to Internet. This means the Internet growth is much rapidly compared to other media (Sanaie, 2001).

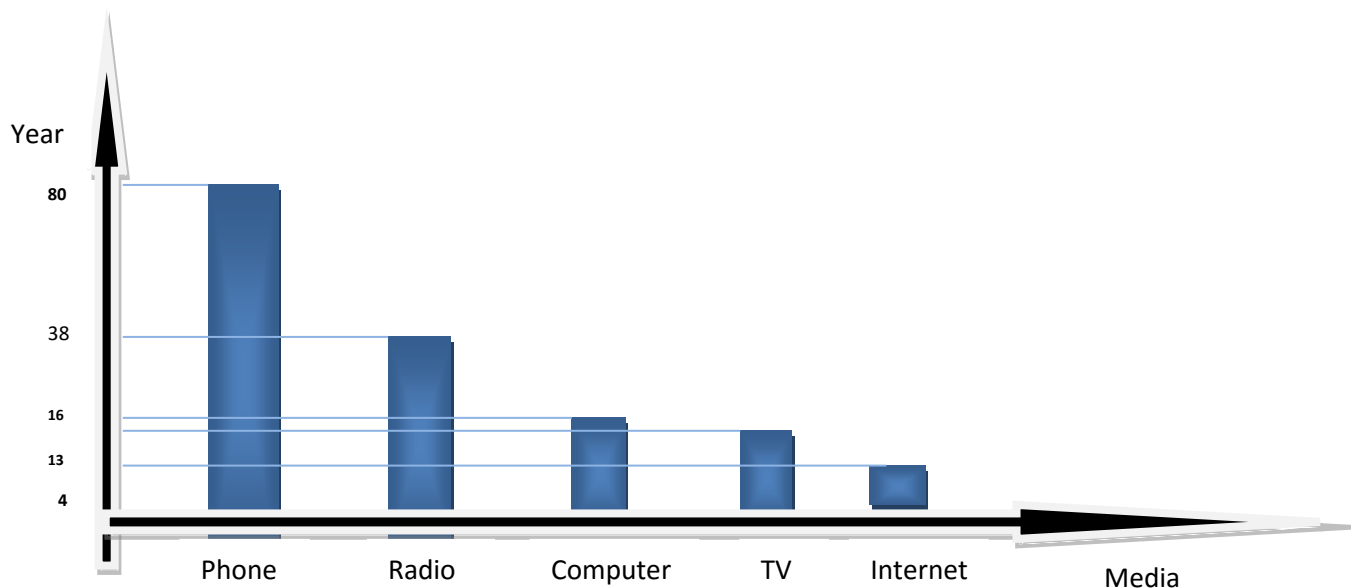


Figure 2.3: Internet Growth in the World Compared to Other Media (Sanaie, 2001)

In fact, electronic data exchange can be considered the father of e-commerce. The advent of storage and marketing tools, data processing, development of telecommunication technologies and widespread computer networks and also public instant access to technology have created an opportunity for modern business (Sanaie, 2001).

Over the past twenty years, the expansion of e-commerce has led to a decline in hardware prices. Furthermore, the development of e-commerce boosts the quality and level of standards of hardware. This process is called the unified standardization (Gunasekaran, 2002).

Nowadays, with the dramatic drop in hardware costs and the flexibility and compatibility of software standards, people are able to exchange data in low price in the world and this one of a major advantage of e-commerce, fast, inexpensive and easy access to information (Madadi, 2000).

2.3.1 History of E-commerce in Iran

Today, information technology is the focus of economic, social and cultural development, and e-commerce is one of the products of this technology that is growing rapidly and that will change the shape of traditional commerce completely in the near future. E-commerce makes business global more, the removal of time and space constraints, position job creation, lower inflation, expanding market coverage, reducing the price of resources to buy, increasing sales, improving productivity, reducing dramatically trading costs and creating opportunities for small and medium firms. Iran is a young country in the field of e-commerce and much time and money have to be spent to reach the desired situation and implementing this phenomenon requires fundamental steps in the economic, cultural, political, legal and technical fields. Therefore, there is a significant gap with developed countries in terms of e-economy infrastructure and there is a long distance to reach the desired status (Nahavandian, 2012).

2.3.2 Electronic Business

In less than a decade, the Internet has promoted dramatically. The Internet was used only in government offices and universities before, now it's pretty much used in business that is called Future of Business. The Internet has become the fastest growing with an extraordinary and unpredictable growth in the number of users as well as available information. Due to the rapid growth of the Internet, it is often unbelievable its real impact on the world of business (Subramani & Walden, 2001).

Considering the difference between real and virtual world traditional trades will be very limited. Many people still interpret the Internet, e-commerce and e-business in same meaning while the Internet is a tool or device but e-commerce is transaction by internet and e-business is use of internet technology on business processes (Combe, 2006).

2.3.3 Differences between E-commerce and E-business

In general the electronic business means using of new technologies for communication between service providers on the one hand, and the buyer and consumer on the other hand in order to make better decisions on optimizing goods and services, reducing costs and the opening of new channels, but e-commerce is defined as any kind of transfer in trade, in which all parts are contacted by electronic more than physical transfers. In other words, e-commerce is a part of e-business in organizations (Daft, 2003).

2.3.4 Critical Points in E- Commerce

From an economic perspective, it is important to pay attention all actions that consider as a evaluated positive action in the real-world transactions, it is possible not a good thing in Electronic commerce, for example, the main concern of traditional stores is location of them place while today place is not important for online stores, but information is more decisive factor in electronic commerce (Chen, 2008).

The Internet is not just a new media. It brings with itself a set of fundamental rules. These rules focus on five key points, speed, communication, information, interaction, and transaction on the Internet. It should be noted that distribution is considered as a major activity in e-commerce as well. The Internet has been used in all aspects of the

value chain and even some of these applications cover several activities simultaneously (Madadi, 2000).

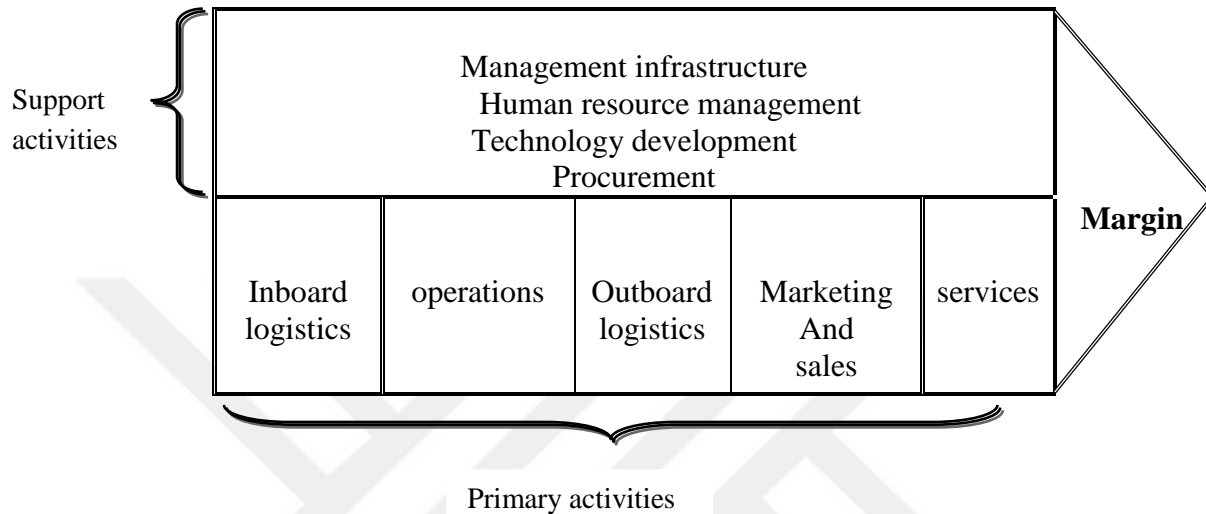


Figure 2.4: The Business Value Chain of Electronics (Madadi, 2000)

2.3.5 Advantages of E-commerce

E-commerce helps to make communication closer and better, increasing sales and profits, achieving new global markets, reducing costs such as paper, brochure printing and catalogs, reducing transaction costs, raw materials and machinery, sales and distribution, improving consumer management, supplier and employee relationships, reducing environmental pollution, traffic jams, removing brokers and increasing transparency in the market (Schafer & Joseph & Konstan & Riedl, 2001).

Electronic business network provides users with credit, online payment, logging and account management on the Internet. The purpose of using e-commerce is to provide a new way of doing business. Traders are able to offer their products and services to shoppers around the world on full-time by using e-commerce regardless of geographical and national boundaries (Choi et al.1997). One of the benefits of e-commerce is the reduction of transaction costs. According to the Economist Intelligence Unit (EIU), the current value of global exports of goods and services is estimated \$7 trillion and the

amount of \$500 million is spent on relevant documents exchange .In the other words, there is a sharp drop of 7% in the amount of transaction value. Research findings confirm that the use of electronic exchange of information instead of traditional paper-based methods can reduce from 21% to 70% in the amount of expense of various commercial activities (Daniel & Elizabeth & Wilson, 2002).

2.3.6 E-commerce Framework

The e-commerce framework is made up of three excellent levels

- Substructure: Hardware, software, databases, and communications by using WWW services on the Internet.
- Services: Messaging and wide range of services that provide users with finding information, including searching potential business partners, as well as negotiate and trade deals.
- E-Commerce products and structure: Forecasting and prepare products and services for customers and business partners directly and participating inside and out of organization (Cha, 2011).

2.3.7 E-commerce Area

The scope of e-commerce is wide. As shown in Figure 2.4, there are a large number of e-commerce applications are necessary to prepare information infrastructure and there are lots of supportive services to run these business applications (Kenneth & Traver, 2016). EC applications are supported by the infrastructure and five supportive elements are as following:

People: sellers, buyers, intermediaries, information system specialists and other employees and any other contributors (Friedman 2006).

General policy: The legal system and other policies and regulations, such as individual protection and taxation that are imposed by the government (Kenneth & Traver, 2016).

Marketing and Advertising: Similar to any business, e-commerce requires support for marketing and advertising. This is especially important in B2C transactions where buyers and sellers usually do not know each other (Kenneth & Traver, 2016).

Support Services: This part including all e-commerce support services are from payment to delivery (Friedman 2006).

Business partners: Joint investment, e-markets and business partners are commonly used in e-commerce. These often occur throughout the supply chain (Kenneth & Traver, 2016).

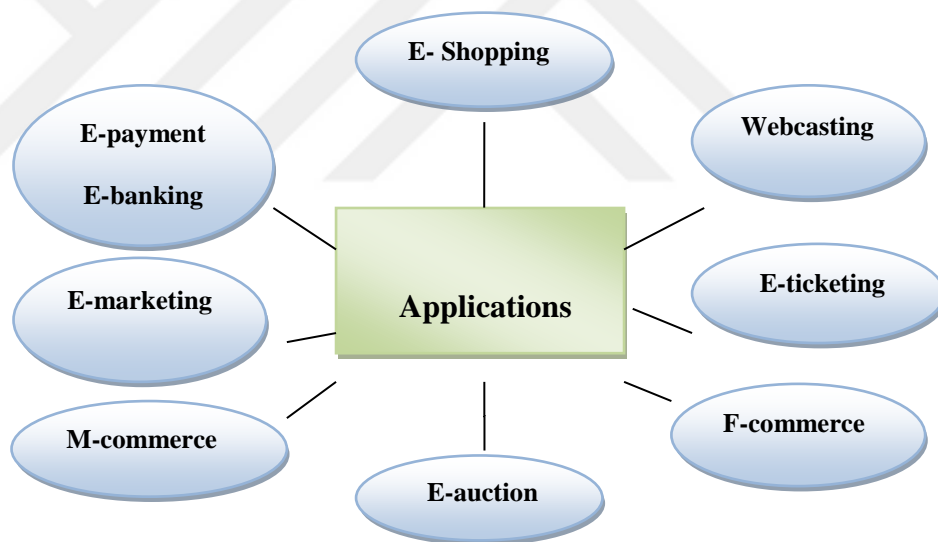


Figure 2.5: EC Applications (Friedman 2006)

2.3.8 Types of E-commerce

B2B: Trade in goods, services and information between firms and Companies is B2B. This is the first way to buy and sell electronic deals. B2B is used where people want to do major sales through e-commerce and without the retailers (Eastin & Matthew, 2002).

CISCO was one of the first large companies to launch their own e-commerce site in July 1996, and the rest of the company started a new effort to do this. A month later, Microsoft's large companies, IBM, launched their own commercial software that allowed Internet sales. B2B allows businesses to expand internationally. Partners and customers can also achieve higher efficiency, better buy and sales and their demand (Drew 2003).

B2C: Company with customers: sellers are organizations and buyers are individuals. This kind of business is expanding rapidly with the expansion of the Web and now it's easy to buy a variety of goods from sweets to cars through the Internet (Eastin & Matthew, 2002).

B2C began by launching websites such as Cd Now and Amazon. Jeff Besor is a founder in B2C, who sets up Amazon in 1994. He was a trader with a little experienced in the market. The site has been launched for the purpose of selling the book through the Internet. This simple idea was an introduction to the global evolution (Bernoff & Morrisette & Clermmer, 1998).

C2C: consumer to consumer, in this model e-commerce, auctioning and bidding is done through the Internet. The C2C model is similar to classified advertizing in newspaper or a second-hand market. The idea behind this model is that consumers can transaction each other without brokers. The E-Bay Online is the largest sample of C2C.

C2B: Consumer to business, in C2B, consumers declare a special need for a product or service, and suppliers compete with each other to provide consumers with this product or services. For example, the Priceline is where the customers announce their product and price and Priceline tries to find a supplier of this request. In this model, consumer determines the price and the company will accept the price (Bernoff & Morrisette & Clermmer, 1998).

B2G: Business to government is the relationship between government and companies via the Internet. This type of e-commerce includes all commercial-financial exchanges between companies and government agencies such as providing government needs by

companies and paying taxes. Freemark.com is a good example for this model (Loudon & Loudon, 2004).

G2C: Government to Consumer, this type of e-commerce refers to all business affairs between government and people, such as collecting donations for charity and income tax payments (Loudon & Loudon, 2004).

Table 2.3: Classification of Electronic Exchange Models (OECD, 2000)

Government	Firms	Consumers
G2G e.g., Coordination	G2B e.g., of information	G2C e.g., of information
B2G e.g., procurement	B2B e.g., e-commerce	B2C e.g., e-commerce
C2G e.g., Tax compliance	C2B e.g., Price comparison	C2C e.g., Auction markets

(OECD, 2000)

2.3.9 E-commerce Barriers and Concerns

Network Security: In 1998, a person named Robert Morris introduced a virus to the Internet, which interrupted the activities and services of a number of networks for a few days after that until 10 years, a significant virus was not distributed on the network until the appearance of the Melissa virus in 1999 (Rose & Rosin 2002) There are many reasons for this kind of electronic invasion. Solutions to this problem have been proposed, including firewall, VPN and intrusion detection systems (Zixiang & Ouyang, 2010).

2.3.10 Direct Sales beyond the Web

Manufacturers can sell their products and services to retailers, dealers and brokers directly. Direct sales can reduce the cost of buying interactions. Virtual store managers Amazon.com and Win.com for instants do not have much to pay for rent, sales staff, and other operations related to traditional sales (Rose & Rosin, 2002).

Airlines can sell their tickets directly to their customers through their own web sites or through travel web sites such as Travelocity without paying a percentage fee to airline agencies.

The distribution channel has different intermediate layers. Each of them adds to the final cost of the product, removing the layers reduces the final cost of production for the consumer (Gunasekaran, 2002).

2.3.11 E-commerce Features

Globalization: E-commerce makes business global and eliminates limitation of time and place. E-commerce with using internet as the primary tool, allows sellers and buyers anywhere in the world to communicate each other in the shortest time. According to statistics and studies conducted today, based on this important feature, between 20% Up to 75% is saved in commercial operating expenses (Kenneth, 2003).

Reduced price of resources to buy: By using e-commerce, costs of marketing and distribution and services tend to be reduced by comparison with traditional ones. In this type there is no need for intermediaries because the largest manufacturers can communicate with consumers directly (Keshetri, 2007). In fact, the manufacturer knows their customers and does not lose them. Customers will also re-purchase from a site which they have purchased before because customers are reluctant to post their credit card number everywhere. However, with the creation of electronic money, this problem will be resolved (Nour, 2015).

Increase in sales: Whereas in new system, distribution and sales channels are expanded, it makes advertising more active in efficient way and sales volumes are increased. On the other hand, it is possible to increase customer retention due to facilitating delivery of goods and reducing the delivery time of goods and providing customer with better service (Zixang, 2010).

Manufacturers and Clients Guide: Since there is a part in the sites for consumer comments, manufacturers will be able to consistently match for their customer needs consistently and produce optimal products. On the other hand, since there are features

for each product on the manufacturers' sites, consumers will be able to purchase the product they need (Amit, 2000).

24-hour availability: Due to online selling sites and providing 24-hour customer service, they can easily reach their sites and do the necessary activities on them (Fisher, 2003).

2.3.12 The Main Tool of E-commerce:

The main e-commerce tool is bar code, e-mail and e-banking.

Bar Code: Each company receives a pre-number by accepting membership in the National Product Numbering Center. This preset number is always used to determine the company's product number. This makes company sure identification of product is unique to the world. The number of goods is converted into a symbol readable by the machine and printed in the best quality (Bernoff & Morrisette & Clermmer, 1998).



Figure 2.6: Common International Bar Code

Electronic Banking: Electronic banking involves performing all financial processes of banks through electronic data exchange, which speeds up customer service and more accurately performs banking operations.

Cards: Cards have different types designed for different purposes based on different technologies. There are over 700 million payment cards in the US.

Debit card: The cost of a purchase item is deducted from the holder's current account directly with a debit card.

Credit Cards: A credit card allows its holder to buy up to a certain amount.

Expense Card: This type of card is almost similar to a credit card but the total amount of the invoice has to be paid at the end of the month.

Smart cards: An advanced type of debit or credit card that has a memory. Some of types of that are: Electronic wallets, Electronic check, micro payment system (Bernoff &Morrisette & Clermmer, 1998).

2.3.13 Benefits Of E-commerce

For organizations:

The amount of sale in companies is expanded on international markets by using e-commerce. Companies can have access to materials and services of other companies quickly with least cost. Eliminating some marketing distribution channels give rise to reducing the cost of production. Distributing via e-commerce reduces inventory and overhead costs due to the fact that selling in e-commerce does not require high and e-commerce makes some small businesses more competitive. Consequently small business will be able to compete with big companies in the global market (SwissRe, 2004).

For customers:

Providing consumers with cheaper products in quick searches and online enable people to choose suitable products and purchase good and service 24 hours in 7 days from almost everywhere. Customers are always aware of detailed and up-to-date information. Using e-commerce provides consumers with competitive prices and allows people to work and study at home and exchange ideas and compare experiences in electronic communities (Bernoff &Morrisette & Clermmer,1998).

For the Community:

Air pollution and traffic jam can be reduced since people work at home and travel less by using e-commerce. Electronic commerce gives people the opportunity to benefit from

goods and services in developing countries and rural areas. Therefore, standards of living are increased and people can have access to products with lower prices. E-commerce provides people with opportunities for learning professions and obtaining higher qualifications and having access to public facilities such as social services, police work health care and education (SwissRe, 2004).

2.3.14 E-commerce Limitations

Technical limitations:

From technical limitations, the lack of global standards for quality and security can be mentioned. Inadequate bandwidth and software that are not fully developed yet make implementing e-commerce more difficult. Other technical problems are the lack of access to the Internet in deprived areas or high Internet prices in some cases (Turban & Rainer & Potter, 2005).

Non-Technical Constraints:

The most important obstacle in expansion of e-commerce in public is customer's resilience to changing the way of purchasing, encouraging consumer to purchase online instead of the tangible goods in stores is the major key to solving this problem (Ivanov, 2012). One of the other worries about online shopping is that there is not enough security in the payments and transferring money in the virtual world has a higher risk. From the social perspective, some people believe that e-commerce lessens social relations and brings people apart. From their point of view, e-commerce removes one of the benefits of shopping means spending time in society (Turban & Mclean & Wetherbe, 1998).

2.4 Types of Insurance

In general, insurance is used in two general areas:

Social Insurance: Social insurance is based on the idea, when society faces risks that it cannot handle. Therefore, social insurance reduces the costs of these risks which have adverse effects on groups of society. This type of insurance is compulsory but insured

pays only a fraction of the total insurance premium and the rest is provided by the government and the employer. While insurance premium is set at risk level in commercial insurance, in contrast, insurance premium is usually a percentage of salary wage regardless level of risk in social insurance. There are various types of social insurance such as health insurance and disability and work-related accidents (Karimy & Ayat, 2003).

Commercial Insurance: Commercial insurance is an optional insurance that is intended to cover certain risks. In commercial insurance people make insurance premium considering risk level, some types of this insurance are life insurance, property, liability and workers' compensation (Brussels, 2002).

2.4.1 Electronic Insurance

Electronic insurance generally refers to the use of the Internet and information technology (IT) in the producing and distributing insurance services (Chang & Lee & Chang, 2014). In particular, electronic insurance is an insurance that is requested and contracted online (Billo & Getmansky, 2012). Although distributing insurance and the compensation process can be done on-line, but regulatory restrictions may not allow for a fully electronic operation in some countries (Arora, 2003).

Today, there are basically three types of insurance websites on the Internet. First type is information sites that provide information and refer questions to dealers or provide customer with price of insurance online. Second type, marketing sites that are the site of agencies, in fact these sites are marketing tools, information collection, receiving online requests, and answering frequently asked questions from customers. The third type is big shopping sites that buyers on these sites compare prices by collecting information from different insurers (SwissRe, 2004).

2.4.2 E-commerce Implementation in Insurance Industry

E-commerce implementation in the insurance industry requires compatible infrastructure of information technology. One of the main problems insurance industry encounter to

develop information technology is the lack of a proper cultural context, and solving this problem requires planning and allocating specific budgets (Hornig & Chang, 2012).

Collecting information from the insurer is crucial issue since the risk is assessed based on information and risks are not standard. Engineering projects do not have the same risk anywhere in the world (Billi & Getmansky, 2012). In addition, each insurer has confidential information and the insurer is obliged to maintain this information. However, electronic insurance sales bring about reducing costs, increasing competition, increasing demand and standardizing insurance policies. While electronic insurance makes transaction easier to monitor, but monitoring should be taken seriously since fraud and money laundering may develop in electronic sales and it's important to avoid the activities of non-identity vendors (Arora, 2003).

It's not possible to sell some insurance policies electronically. For example, in some life insurance policies, the insurer will receive a medical examination, and this cannot be done electronically or in some cases it is necessary to visit the site to determine the amount of damage (Chang, 2014).

2.5 Research Literature Review

Martin Grossman (2004) in his research stated that the insurance industry has undergone major changes as it focuses on accepting e-commerce and with the help of e-commerce, it can increase its competitive power and use its full potential and compete in the global marketplace.

The result of Fatemeh Hoseinpour (2013) indicated IT has an impact on speed in Iran insurance company in terms of reducing costs, reducing non-productive activities and safety and speed has been established.

Kachardas (2012) has analyzed the effects of e-commerce on organizational performance and based on the statistical analysis in this study, the results show that e-commerce applications have a significant impact on corporate operating performance. This study thoroughly states that the use of e-commerce in any organization is very important. It helps to boost the quality of marketing, help to boost the payment system of the organization and finally, it can increase the productivity of the workers and the profit

of the organization. This research also presents a model that shows the relationship between the five applications of e-commerce and the three parts of the organizational performance.

Feizollahi (2014) has investigated the effect of Internet on organizational performance and indicated there is positive coloration between e-commerce familiarity and organizational performance and organizational performance.

Alipour (2011) has done a survey about Feasibility Study of E-Insurance Services in Iranian insurance companies and the data collected and the summary of the results show that the Asia insurance company has the ability to provide their customers with electronic insurance services and the provision of electronic insurance has an important impact on the firm's performance in terms of financial and sales growth.

Meskat (2012) has investigated in relationship between electronic insurance and its application in e-commerce and stated that the marketing and sales, research and development sectors have had the most potential to use e-commerce, and on the other hand, car insurance, cargo, life and personal insurance are compatible with online sales. Additionally, reducing marginal costs for the supply of products or services and expanding businesses by removing geographical constraints is the most important advantage of using e-commerce in insurance companies.

Puay (2000) in his research about the impact of electronic commerce on the competitiveness show that companies that use e-commerce the cost of access the global market for them will be lower and setting up e-commerce can make them more competitive compare other companies. These companies can respond appropriately to market demands.

Sekulovska (2012) did a survey about Internet business models for e-insurance and stated that from the analysis of the hypothesis it can be concluded that companies can use e-commerce to communicate with other companies as well as their customers and the use of e-commerce can increase their access to information and improve their performance.

Jingtao (2004) has investigated ecommerce adoption of insurance companies and state that to achieve the benefits of e-commerce, the scale of electronic activities should be significantly increased this study show that designing sites for all companies is appropriate and will increase access to prices and services for customers.

Shahriari (2015) has discussed about e-commerce and it impacts on global trend and market and indicate the benefits of e-commerce are cost savings, increased productivity and customization. To understand e-commerce, identifying the various terms that are used is important to determine their applications. These include additional information, reliability and security issues, access costs, social divisions and problems in monitoring the Internet. Successful e-commerce involves understanding the constraints and minimizing the negative impact.

El Monayery (2015) has done a survey about the Application of E-commerce in the Insurance Industry and show that if e-commerce is not implemented in companies, insurance companies will be in a disadvantaged competitive situation in developing countries such companies are likely to lose out of competition, withdraw from the insurance market or work as an intermediary for foreign insurance companies. In this study, comparing insurance companies in developing countries with developed countries, it has been concluded that the only way to enter the competitive market is to be equipped with information technology.

Mohammad Hossinpour (2014) has examined the impact of e-commerce on life insurance and investment in the insurance industry. Research results show that using the Internet to simplify advertising and responding to customer questions in the shortest time and online sales has a positive impact on marketing in the insurance industry and also raise the awareness customers about products and keep the company's brand and image in the mind of the customer and using of e-commerce enhances distribution channels and thus reduces costs.

Ivanov (2012) has discussed about the impact of e-commerce on small-size companies in Sweden and this study shows that improving internal productivity and increasing the exchange of information is a major benefit of e-commerce for companies. By increasing the exchange of information it is possible to cover the client and attract new customers.

E-commerce can increase customer's information and they are more willing to buy when enough information has.



3. RESEARCH METHODOLOGY

3.1 Introduction

One of the features of an efficient science study is the use of an appropriate research methodology. The methodology of research is the method of data collection and analysis and processing. In this section, the research method, statistical sample, sampling approach, the instrument for measuring and collecting data, and eventually statistical examination for analyzing and processing data are determined.

3.2 Research Approach

The research approach is often quantitative or qualitative. Qualitative research is an approach to exploring individuals or groups that are related to a social or human problem (Walliman, 2011) the research process involves new questions and procedures and data is usually collected in the company and the researcher interprets the meanings derived from the data. Those involved in this type of research pursue a research method that focus on the meaning of the individual and the importance of presenting the complexity of a position. Quantitative research is a method for studying theories of purpose by examining the relationship between variables. These variables can be measured by measuring tool, so that numerical data can be analyzed by using statistical methods (Mertens, 2009).

Given that the main objective of the study is to investigate the effect of e-commerce on the insurance industry, determining to what extent the insurance industry will be influenced by e-commerce is considered. Therefore, for reaching this goal and comparing the various factors can be affected by e-commerce, quantitative method is needed and this research has been carried out based on quantitative data not qualitative data and research type is an applied research and its research strategy is a survey.

Moreover, several academic and professional journals and textbooks have been read and a questionnaire has been used as a tool for collecting data.

3.3 Data Collection and Type of Data

In this research, a combination of academic and professional journals, conference reports and English and Persian textbooks and questionnaires have been used for collecting data. There are numerous ways for collecting data, such as observation, questionnaires or interviews.

Observation: observation method means going into the field, the factory or company and watching workers, consumers and describing, analyzing and interpreting what people do (Saunders & Lewis & Thornhill, 2009).

Interviews: there are two types of interviews, unstructured interviews that the interviewer has not planned for questions to be asking and structure interviews that the interviewer has a list of predetermined questions (Sakaran, 2003).

Questionnaire: this method is a pre-formulated, a set of questions have written and the respondent records his answers (Sakaran, 2003).

In this survey to collecting the data for testing hypotheses, a questionnaire was prepared and distributed among the sample population of the statistical society and collected after completion.

The questionnaire was divided to five parts. The first sector is related to demographic profile was easy to adopt with them and other parts relate to research hypotheses, which are categorized as follows:

Table3.1: Questions Categorized

part	Number of question	Related to
1	1-7	Demographic profile
2	8-12	H1: relationship between e-commerce and reducing costs
3	13-18	H2: Relationship between e-commerce and company's competitiveness
4	18-24	H4:Relationship between e-commerce and organization performance
5	24-30	Using of e-commerce

3.4 Sample Selection

From a statistical point of view, sampling is to select a subset of individuals within a statistical society to estimate the characteristics of the entire population (sakaran, 2003).

Element: The population refers to a set of people and events or things that are considered by the researcher and are supposed to be investigated and the element is single member of population (Walliman, 2011).

Population frame: The population frame is a list of all elements. Although the population frame is useful in providing a list of each element in the population, the current document may not always be updated (Walliman, 2011).

Sample: Sample is a subset of population. This includes some of the selected members of it. In other words, some elements of the population can be considered as a sample

Sampling: Sampling is the process of selecting a sufficient number of elements from the population (Saunders & Lewis & Thornhill, 2009).

The reasons for using the sample instead of collecting data from the entire population are to boost the quality of work. In research which consists of hundreds or even thousands of elements, it is impossible and time demanding to gather data or test or review each element. It requires high cost and human resources. Sometimes studying a sample instead of the whole population may also have more reliable results due to fewer

errors in data collection especially when a large number of elements are involved (Sakaran, 2003). The most common sampling methods are as follows:

Simple Random Sampling: In simple random sampling method each element in the population has the same probability of being chosen as a subject (Saunders & Lewis & Thornhill, 2009).

Systematic Sampling: In a systematic sampling method in a population, the first element is randomly selected and then other elements are selected according to the selection method (Saunders & Lewis & Thornhill, 2009).

Cluster Sampling: In cluster sampling method, a random sample is taken from groups or clusters and not individual units, in other words sampling units are clusters such as families, schools, hospitals, urban blocks, villages, etc (Walliman, 2011).

Area Sampling: The area sampling plan forms is geo-clusters. This means when the research is related to a specific geographic area, the sample can be selected from that part such as cities, city blocks, or specific boundaries in one location (Sakaran, 2003).

Double Sampling: This method is used when more information is needed from a subset of the group or from information that has taken for the same study previously (Saunders & Lewis & Thornhill, 2009).

Convenience Sampling: convenience sample is one of the main and specific types of non-probability sampling methods that rely on data collection from population members who are conveniently available to participate in research. Convenience sample is made up of people who are easy to reach (Koerber, 2008).

In this research, convenience sample method was used for obtaining statistical sample due to lack of access to the whole statistical society.

3.5 Selection of company and Respondents

There are twenty one private insurance companies and five states –owned insurance companies in Iran. States-owned insurance companies include Iran, Asia, Alborz, Dana and Investments. The center of state-owned insurance companies centralize in Tehran

and each company has one or more branches in the center of each province and some of its cities depending on the activity level (Narjes, 2006).

In this research two state-owned insurance companies (Iran, Alborz,) and two private insurance companies (Parsian,Sina) are considered as sampling frame and the target community in this study includes managers (senior, junior and operational) and experts of insurance companies and e-commerce and the sample data in this survey was randomly chosen in different department such as, human resource, finance, public relations, marketing & sale and IT.

3.6 Sample size

The main step when doing a research is selecting of sample size. In this research to determine the necessary sample size the blow formula is used (Machin et all. 1987).

$$n = \left(\frac{zS}{d}\right)^2 \quad (3.1)$$

$$n = \frac{z^2 p(1-p)}{d^2}$$

In this formula $d = \text{Confidence Interval}$ which is considered to be 10% in this research. The common confidence levels in the research are 90%, 95% and 99% based on which Z is calculated:

$$Z=90\% \text{- } Z \text{ score}=1.645$$

$$Z=95\% \text{- } Z \text{ score}=1.96$$

$$Z=99\% \text{- } Z \text{ score}=2.326$$

In this research *Confidence Level* is considered 95% so, $Z=1.96$

$$P=\text{standard deviation} = 0.5$$

$$n = \left(\frac{(1.96)(0.5)}{0.1}\right)^2 = 96.04$$

According to this formula at least 97 respondents are needed. Therefore, 150 respondents are considered in order to obtain better result.

3.7 Information Analysis and Hypotheses Testing Methods

Research usually begins with questions and hypotheses. Each statement or claim on the statistical community is called a statistical hypothesis. Statistical hypothesis test is used to verify the accuracy and reliability of a statistical hypothesis. In fact, the test of statistical hypothesis, a test to determine this issue whether the research hypothesis is confirmed by analyzing data or not (Trevor et al. 2001). To assessing effects of one or more independent variables on a dependent variable based on different experimental designs, several statistical methods such as t-test and Anova can be used but if there are more than one dependent variable, depending on the dependence between dependent variables, different methods can be utilized (Meyers, 2012). In this research SEM technique in AMOS is used to analyze hypotheses.

In summary, this section, the research methods were investigated and it was found that a quantitative method is suitable for this research. The research type is applied and the research strategy was considered as the survey. In the next section, a variety of data collection methods were introduced and a questionnaire was used for this study. The sample size of this study is 150 and this research is carried out in insurance companies in Iran.

4. RESEARCH MODEL DEVELOPMENT AND HYPOTHESES FORMULATION

4.1 Introduction

This study investigates the impact of e-commerce on insurance industry. Many companies are adopting e-commerce as a selling and ordering process with the growing importance of information technologies in business practices. The insurance industry also needs to provide their industry with technology to stay competitive in the market. As mentioned before, the purpose of this study is to examine the effect of using e-commerce. To achieve this goal, and according to the research background, the research hypotheses are specified and discussed in this chapter.

4.2 Research Model and Hypotheses

The field of e-commerce in Iran has been chosen as theoretic framework in this research and in this survey has been investigated the impact and role of e-commerce on the insurance industry and to achieve this goal, the following hypotheses are tested.

H_1 : There is a positive relationship between using of e-commerce and reducing cost.

H_2 : There is a positive relationship between using of e-commerce and company's competitiveness.

H_3 : There is a positive relationship between using of e-commerce and organizational performance.

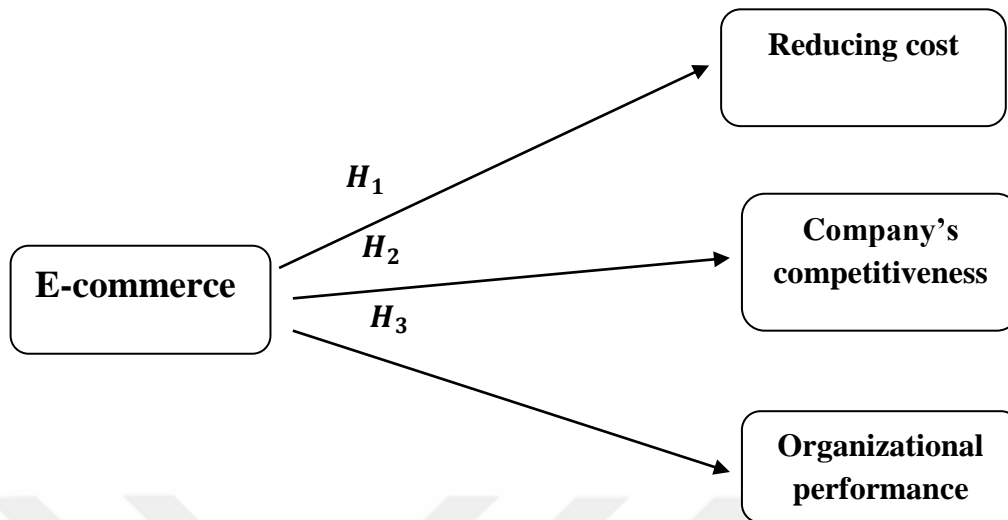


Figure 4 .1: Research Model

4.3 E-commerce and Reducing Cost

Companies can use the web to provide customers with ongoing information, service and support, creating positive interaction that can serve as the foundation for long term relationships and encourage them to purchases repeatedly. It allows companies to delivery quickly, especially in case of digitalized products. Consequently, consumers have access 24 hours in 7days to service (Wang & Xu, 2001). Using of e-commerce eliminates a lot of the intermediate links. Thus, reducing middle link cause a reduction in costs of companies and reducing the product's final selling price. It not only helps businesses expand sales over the Internet, consumers can benefit from reducing price as well (Delone et al. 2003).

According to review of the literatures and researchers has done before there are a positive relationship between e-commerce and reducing cost of companies. Shahriari (2015) has discussed about e-commerce and its impacts on global trend and market and indicate that the benefits of e-commerce are cost savings, increased productivity and customization. Fatemeh Hoseinpoor (2013) has researched the effect of using information technology on Iran insurance company performance. She has assessed impact and fields of application of information technology in Iranian insurance companies in terms of five factors. One of the five factors studied in this survey is the

impact of using information technology on reducing costs in insurance companies. The statistical population studied in this survey is experts and managers in Iran insurance company in Mashad city this study shows that IT has been influential in Iran insurance company in terms of reducing costs. Mohammad Hossinpour (2014) stated that using of e-commerce enhances distribution channels and thus reduces costs.

Based on the discussion mentioned above being positive relationship between using of e-commerce and reducing cost is expected. Therefore, following hypothesis presents:

Hypothesis 1: There is a positive relationship between using of e-commerce and reducing cost.

4.4 E-Commerce and Company's Competitiveness

According to this fact that e-commerce capabilities increases competition power in the marketplace, it is clear that a meaningful relationship can be found between the use of e-commerce and the company's competitiveness.

E-Commerce expand company's marketplace to national and international markets and a company can locate more customers and the best suppliers and the most suitable business partners worldwide easily and quickly. E-commerce eliminates borders because of the use of the Internet and it expands business in the global market (Gao & Wu, 2003). Economic markets are becoming global markets and e-commerce can help companies compete in this market (Zixiang, 2010).

According to a review of the literature and other researchers has done before there are a significant relationship between e-commerce and company's competitiveness. Jahjah Hallal (2009) identified using of e-commerce can enhance business strategic objectives such as productivity and competitiveness. Emma Anamush (2009) stated that using of e-commerce in banking industry is a new way of doing business can be introduced banks in market effectively and makes them more competitive. El Monayery (2015) showed that if e-commerce is implemented in companies, insurance companies will be achieved advantage from competitive situation in developing countries. Puay (2000) has discussed that companies that use e-commerce the cost of access the global market will be lower

for them and setting up e-commerce can make them more competitive compare other companies.

Given the investigation and literatures mentioned above being positive effect of electronic tread on the company's competitiveness is expected. As a result, following hypothesis presents:

Hypothesis 2: There is a positive relationship between using of e-commerce and company's competitiveness.

4.5 E-commerce and Organizational Performance

Using information technology increase Company's performance with reducing time to market and reducing time responsibility to customer. Considering, internet can always facilitate transaction, there is a strong relationship between using of e-commerce and e-commerce implements and facilitating business processes (Delone et al. 2003). As a result of technological advances, many businesses are able to run e-commerce more convenient and efficient up to now and become more competitive by using the telecommunication networks. Organizations boost the quality and efficiency of their performance by implementing e-commerce (Zixiang, 2010).

A review of past research shows being positive relationship between e-commerce and organizational performance is expected. Kabuba Purity (2012) showed that there is a positive correlation between e-commerce and business performance by easier and faster to serve customer, customer ability to access the business on a 24/7, better price to customer and etc Muhammad Mehtab (2015) identified there is positive relationship between e-commerce and organizational performance and organizations can improve their performance in terms of job performance, customer satisfaction and business operations.. Feizollahi (2014) has investigated there is positive coloration between e-commerce familiarity and organizational performance. Sekulovska (2012) stated that companies can use e-commerce to communicate with other companies as well as their customers and the use of e-commerce can increase their access to information and improve their performance.

Considering the investigation and relevant literatures being substantial impact of e-commerce on the performance of the organization is expected. Therefore, following hypothesis presents:

Hypothesis 3: There is a positive relationship between using of e-commerce and organizational performance.

In summary, in this chapter , after an introduction presents research model and hypotheses and the research hypotheses are specified and expressed and according to review of the literature and other researchers have done before has discussed there are a positive relationship between e-commerce and reducing cost of companies, there are a positive relationship between e-commerce and company's competitiveness and a review of past research shows being positive relationship between e-commerce and organizational performance is expected.

5 DATA ANALYSIS

5.1 Introduction

The main focus of this chapter is on data presentation and finding in this research. The current chapter structure is based on sequential questionnaire arrangement in order to provide available data and provide results of responses. This section contains respond to all questions listed in this questionnaire. In addition, AMOS test is used to determine if there is a significant difference between the variables. In this chapter, each part will be present separately in different segments. Using given tables often make them easier to compare and understand perfectly.

5.2 General Overview

To fulfill the purposes of this study this survey is carried out on the Iranian insurance companies. As a discussed in section three, 150 questionnaires was prepared to collect the data for testing hypotheses in this survey. These questionnaires distributed among the sample population of the statistical society including two state-owned insurance companies (Iran, Alborz,) and two private insurance companies (Parsian,Sina). Sampling frame and the target community includes managers (senior, junior and operational) and experts of insurance companies in different department such as, human resource, finance, public relations, marketing & sale and IT. The questionnaire was divided to five parts. The first part of the questionnaire is related to demographic profile and other parts relate to research hypotheses. In this research, convenience sample method was used for obtaining statistical sample due to lack of access to the whole statistical society.

5.3 Demographic Profile

Seven items were considered in this part: gender, age, education level, organizational position, work experience and two general questions about insurance products. In following these will be presented:

Record: The first item in this segment is the gender of respondents that is shown in table 5.1 this table shows the frequency distribution and cumulative percent of gender of respondents.

Age of Respondents: The second in this segment is the age of respondents that is shown in table 5.1. This table shows the frequency distribution and cumulative percent of age of respondents.

Educational Level Record: The third item in this part is the educational level of respondents which is shown in table 5.1. This table shows the frequency distribution and cumulative percent of educational level of respondents. The highest percentage of education was related to the bachelor's degree by 68.7% and the master's degree by 28%, which accounted for 96% of the statistical sample.

Work Experience Record: The fourth item in this segment is the work experience of respondents which is shown in table 5.1. This table shows the frequency distribution and cumulative percent of educational level of respondents. As is understood from cumulative percent, most employees have experience less than 10 years.

Insurance Product: There are two question in this part, question 6 and question7, in question 6 asked respondents view about which way is suitable to sale product, online or phone or face to face and in question 7 asked respondents in their company which insurance products are sold online more.

Table 5.1: Demographic Profile of Respondents

Demographic Profile	Frequencies	Percentage
1) Gender		
Female	38	25.3
Male	112	74.7
2) Age		
21-30	37	24.7
31-40	59	39.3
41-50	38	25.3
51-60	16	10.7
3) Educational Level		
Diploma	2	1.3
Bachelor	103	68.7
Master	42	28.0
PhD	3	2.0
4) Work Experience		
Less than 10	93	62.0
11-20	28	18.7
21-30	22	14.7
More than 30	7	4.7
Questions	Frequencies	Percentage
6) Which of these insurance products are suitable to sale online or on phone or face to face?		
Fire insurance		
Online	106	70.7
Phone	14	9.3
Face to face	30	20.0
Personal insurance		
Online	115	76.7
Phone	35	23.3
Face to face	0	0
Liability insurance		
Online	109	72.7
Phone	26	17.3

Face to face	15	10.0
Life insurance		
Online	104	69.3
Phone	32	21.3
Face to face	14	9.3
Marine and aviation insurance		
Online	120	80.0
Phone	21	14.0
Face to face	9	6.0
Online		
Other		
Online	129	86.0
Phone	14	9.3
Face to face	7	4.7

7) Which of this insurance product are most sold online in your company?

Fire insurance		
Low	13	8.7
So-so	29	19.3
Much	56	56
Too much	52	52
Personal insurance		
Low	0	0
So-so	27	18.0
Much	41	27.3
Too much	82	54.7
Liability insurance		
Low	3	2.0
So-so	62	41.3
Much	35	23.3
Too much	50	33.3
Life insurance		
Low	11	7.3
So-so	29	19.3
Much	34	22.7
Too much	76	50.7
Marine and aviation insurance		
Low	2	1.3

So-so	4	2.7
Much	44	29.3
Too much	100	66.7
Other		
Low	2	1.3
So-so	3	2.0
Much	34	22.7
Too much	111	74.0

5.4 Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) is a statistical methodology the approach to the analysis of structural theory bearing on some phenomenon. The Structural Equation Method (SEM) has been used to analyze the potential structure of the proposed model. This method is a good tool for examining models that have complex relationships when there is a set of structural linear equations, regardless of whether the variables are observable or latent in the equations (Barbara & Byrne, 2010). The following subsections present and discuss the results of the multi-group SEM analysis.

5.4.1 Normality Assessment

The main assumption of SEM is that the data is multivariate normal. From a statistical point of view, skewness is a measure of normality of the distribution function. For a completely normal distribution, skewness is zero and for asymmetric distribution, with elongation towards higher values, this is positive and for asymmetric distribution, with slippage to smaller values, the amount of skewness is negative. Kurtosis represents the height of a distribution. The standardized kurtosis index has a value of 3. This value is generally rescaled by statistical analysis programs to 0. The positive kurtosis means the peak of the desired distribution is higher than normal distribution and the negative kurtosis means the peak is lower than peak of the normal distribution. In general, if the skewness and kurtosis are not in the range (-2 & 2), the data are not normal distribution (West & Finch & Curran, 1995). Appendix D shows skewness and kurtosis related to this data research.

5.4.2 Validity and Reliability Assessment

The next assumptions are average variance extracted (AVE) and composite reliability. These are utilized in order to assess the reliability of the factors of the model, Value of 0.7 and greater for composite reliability and value of 0.5 and greater for AVE were suggested by Hair et al. (1998). Average variance extracted (AVE) almost always can be improved by dropping cases, or by dropping the item with the largest measurement error variance. The result may be desirable to improve AVE, or to raise it above the square of a correlation with another latent variable (Fornell & Larker, 1981). Table 5.2 shows that composite reliability values and AVE values which were satisfied

Table 5.2: Construct Reliability Assessment

Factors	Composite Reliability	Variance Extracted
Reducing Costs	0.770	0.724
Company's Competitiveness	0.840	0.700
Organizational Performance	0.880	0.701
Using of E-commerce	0.880	0.727

5.4.3 The Baseline Model

The first step in SEM analysis is to determine the baseline model. Collected data has examined to ensure that they are well-suited for analytical inference. The main objective of confirmatory factor analysis (CFA) is to assess the extent to which the observed variables are connected to their respective underlying latent factors (Byrne, 2010). The main hypothesis in this research is the impact of e-commerce on the insurance industry, the model to be tested in hypothesis is a four factor (latent variables) composed of reducing cost, company's competitiveness, organizational performance and using of e-commerce. There are 23 observed variables that load on factors in the following pattern, five observed variables load on first Factors, six observed variables load on second factors and six observed variables load on third factor and six observed variables load on fourth factor means using of e-commerce. Each observed variable loads on one and only one factor and errors with each observed variable are uncorrelated. Some Items removed

since this CFA model is the final model and this model was obtained after several re-specifications and re-estimations based on modification indices which were supplied by SPSS AMOS version 22 for each factors. Therefore, some items have been removed by recommendation of analysis to reach better result. Appendix A shows that for each items all factor loading are highly significant with $p < 0.005$. The CAF model presents in figure 5.1.



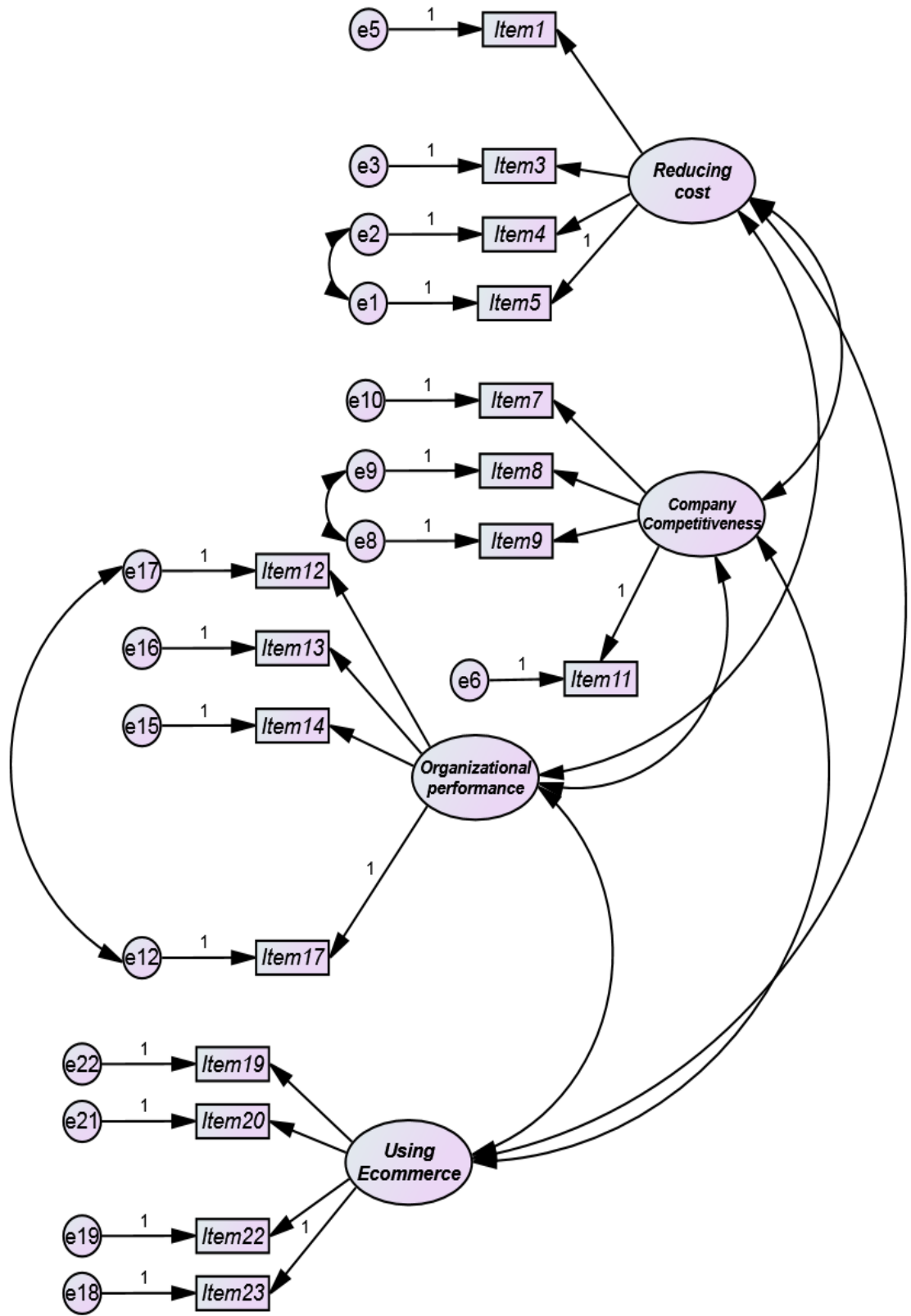


Figure 5.1: Hypothesis CAF Model

Table 5.3: Selected AMOS Output, CFA Model: Goodness-of-Fit Statistics

Model fit summary	
RMR	.043
GFI	.867
AGFI	.810
PGFI	.606
NFI	.747
CFI	.851
PNFI	.591
PCFI	.674
RMSEA	.081

The standardized RMR represents the average value across all standardized residuals, and ranges from zero to 1.00 but in well-fitting model it will be better if this value is 0.05 or less (Byrne, 2010). In table 5.4 the value RMR has shown 0.043 that represents the average discrepancy between the observed variable and hypothesized correlation matrices.

The GFI and AGFI can be classified as absolute indices of fit because they basically compare the hypothesized model with no model at all and both indices range from zero to 1.00, but values close to 1.00 and more than 0.8 being indicative of good fit (Byrne, 2010). In this model GFI and AGFI values represent in table 5.4 (0.867 and 0.810 respectively). It shows that our hypothesized model fits the collected data well.

The Parsimony Goodness-of-Fit Index (PGFI) address the issue of parsimony in SEM and it will be better that have lower values than threshold level generally perceived as acceptable for average indices of fit (Byrne, 2010). In table 5.4 value of PGFI is 0.606 so, it would seem to be consistent with our previous fit statistics.

The next parameter is Normed Fit Index (NFI) has been the practical criterion of choice and it has depicted a tendency to underestimate fit in small sample and the CFI represents the model fitted the data well. Value for the NFI and CFI are from zero to 1.00 and values close to 1.00 being indicative of good fit (Byrne, 2010). Considering values of NFI and CFI that shown in given table (0.747 and 0.851 respectively) they are acceptable.

The next cluster of fit indices relates to the issue of model parsimony. The first fit index (PRATIO) relates to the initial parsimony ratio proposed it is computed relative to the NFI and CFI. The model is taken into account in the assessment of model fit. In this research PNFI and PCFI were accounted 0.591 and 0.674 that fall in the range of expected values.

The next set of fit statistics focuses on the root mean square error of approximation RMSEA. The value of RMSEA should be less than 0.1 and perfectly it should be less than 0.05, (Byrne, 2010). Considering the value of RMSEA the given table (.081) hypothesized model fits the data well.

5.4.4 Hypotheses Testing

In this research using 150 responders, a confirmatory factor analysis using the AMOS (Instantaneous Structure Analysis) was performed in 23 items which were examined by Amos analysis in SPSS and the structural model given in Figure 5.2 and Table 5.5 provides goodness-of-fit statistics of structural model for each determined consumer segment. Appendix B shows that for each items all factor loading are highly significant with $p < 0.005$.

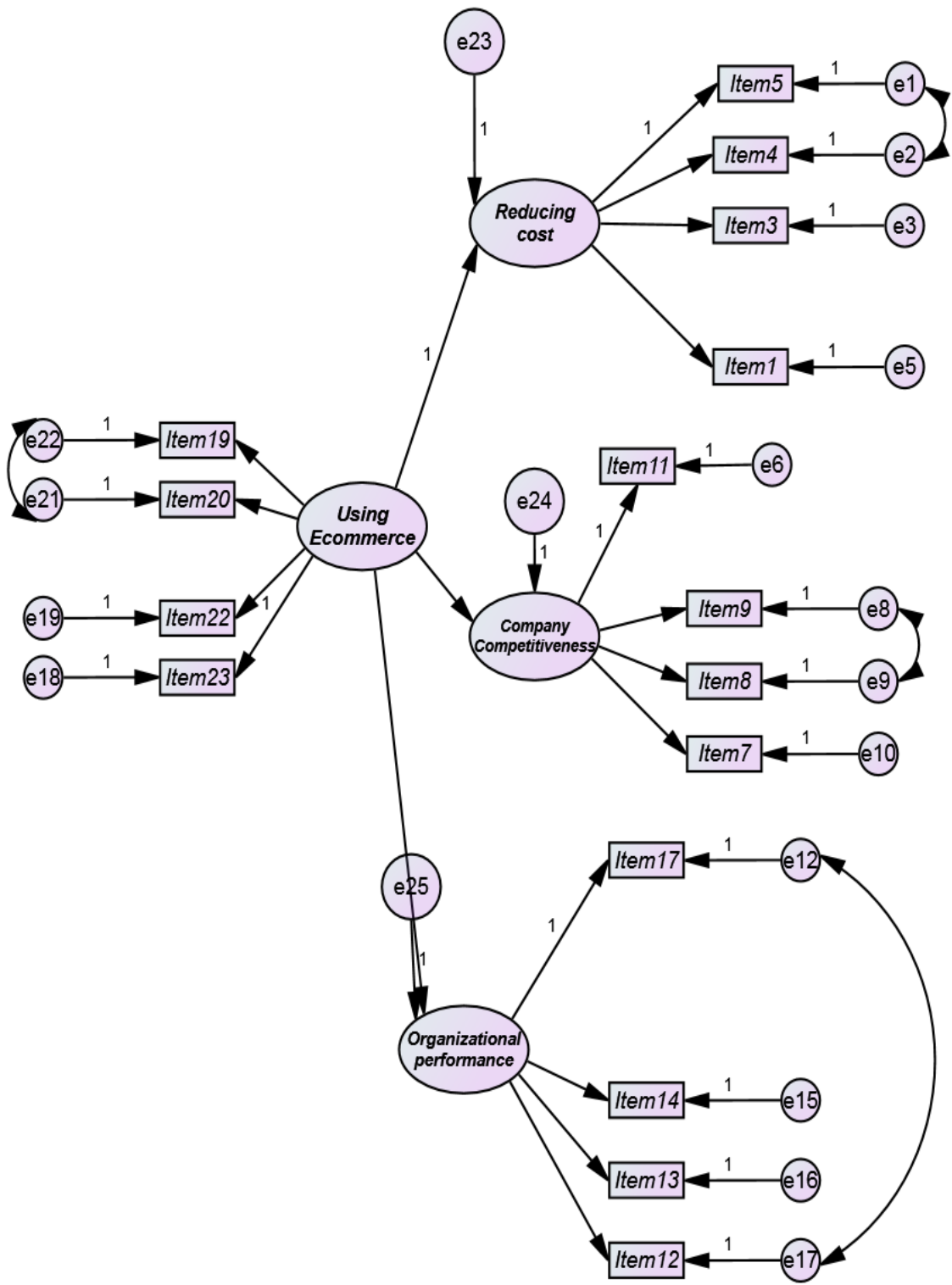


Figure 5.2: Hypothesis Model

Table 5.4: Selected AMOS Output, CFA Model: Goodness-of-Fit Statistics

Model fit summary	
RMR	.045
GFI	.850
AGFI	.792
PGFI	.613
NFI	.720
CFI	.824
PNFI	.588
PCFI	.673
RMSEA	.087

The standardized RMR represents the average value across all standardized residuals, and ranges from zero to 1.00 but in well-fitting model it will be better if this value is 0.05 or less. (Byrne, 2010). In table 5.5 the value RMR has shown 0.045 that represents the average discrepancy between the observed variable and hypothesized correlation matrices.

The GFI and AGFI can be classified as absolute indices of fit because they basically compare the hypothesized model with no model at all and both indices range from zero to 1.00, but values close to 1.00 and more than 0.8 being indicative of good fit (Byrne, 2010). In this model GFI and AGFI values represent in table 5.5 (0.850 and 0.792 respectively). This shows that our hypothesized model fits the collected data well.

The Parsimony Goodness-of-Fit Index (PGFI) address the issue of parsimony in SEM and it will be better that have lower values than threshold level generally perceived as acceptable for average indices of fit (Byrne, 2010). In table 5.5 value of PGFI is 0.613 so, it would seem to be consistent with our previous fit statistics.

The next parameter is Normed Fit Index (NFI) has been the practical criterion of choice and it has depicted a tendency to underestimate fit in small sample and the CFI represents the model fitted the data well. Value for the NFI and CFI are from zero to 1.00 and values close to 1.00 being indicative of good fit (Byrne, 2010). Considering values of NFI and CFI that shown in given table (0.720 and 0.824 respectively) they are acceptable.

The next cluster of fit indices relates to the issue of model parsimony. The first fit index (PRATIO) relates to the initial parsimony ratio proposed it is computed relative to the NFI and CFI. The model is taken into account in the assessment of model fit (Byrne, 2010). In this research PNFI and PCFI were accounted 0.588 and 0.673 that fall in the range of expected values.

The next set of fit statistics focuses on the root mean square error of approximation RMSEA. The value of RMSEA should be less than 0.1 and perfectly it should be less than 0.05 (Byrne, 2010). Considering the value of RMSEA the given table (0.087) hypothesized model fits the data well. The summary of the hypotheses testing for each given factors were provided in Table 5.6.

Table 5.5: Hypotheses Testing Result

Hypothesis	Relationships	Result
H_1	Using E-commerce → Reducing Cost	Supported
H_2	Using E-commerce → Company's Competitiveness	Supported
H_3	Using E-commerce → Organizational Performance	Supported

6. DISCUSSION AND CONCLUSION

6.1 Introduction

In the fifth chapter, data were collected from the statistical community by questionnaires and all the data collected were presented in the form of a table. To fulfill the purposes of this study, the survey has done in the Iranian insurance companies. As a discussed in chapter three, in this survey to collect the data for testing hypotheses, 150 questionnaire was prepared and distributed among the sample population of the statistical society including two state-owned insurance companies (Iran, Alborz,) and two private insurance companies (Parsian,Sina) and sampling frame and the target community includes managers (senior, junior and operational) and experts of insurance companies in different department such as, human resource, finance, public relations, marketing and sale and IT. In the sixth chapter, the data collected were analyzed by the AMOS Test in the SPSS software and the test outputs were presented in the form of a table.

6.2 General Discussion

Almost surely, all insurance companies, with their agents, have access to Internet in Iran and introduce their products and services on their own websites. Their websites are more static rather than dynamic. Jingtao (2004) stated that Small and large companies in New Zealand do not have the necessary infrastructure to use e-commerce. Thus, the implementation of information technology will not be useful to them. Ndonga (2012) indicated the threat of Internet cybercrime and the lack of adequate infrastructure and lack of adequate knowledge has prevented the adoption of e-commerce in African countries. As a result, companies that use e-commerce face a lot of obstacles and the use of e-commerce does not have many advantages for them while in Iran, based on previous studies that have already been mentioned and also the results of the seven questions in the profile questions section and the result of hypotheses testing indicate

that managers and experts of insurance companies believe that most insurance services are suitable to sell online and these can be sold online more. Moreover, using of e-commerce can boost the quality and efficiency of their companies due to the advancement of technology and increasing Internet user.

6.3 Research Finding and Conclusion

E-commerce has undoubtedly become a vital part of society. The World Wide Web plays an important role in our everyday lives. Therefore, it is important that different industries adapt themselves to these changes in order to remain competitive in the market. Companies can benefit from e-commerce by using information technology. In general, considering the results obtained in this study can be said e-commerce can express every business online and over the Internet. Many of the techniques that have been developed in recent years and are expected to grow further. Using e-commerce, information about buying and selling goods and shipping is easier to reach. Companies have no limit to communicate each other and their relationship become easier and faster. As mentioned above, all hypotheses related to research questions were analyzed in chapter six is proved. Based on the wide range of insurance companies and their departments that were considered as statistical society, it make easy to generalize the findings to all companies and even insurance industry as well. The collected data was tested by AMOS analysis and the result is that there is a positive relationship between using of e-commerce and reducing costs. Therefore, and proof of this hypothesis shows that:

- Using of e-commerce help insurance companies by cost reduction in value chain management.
- Using of e-commerce help insurance companies by lower communication cost (phone and paperwork).
- Using of e-commerce help insurance companies by reducing cost of advertising.
- Using of e-commerce help insurance companies by reducing cost of information research.
- Using of e-commerce help insurance company by reducing cost of transaction.

Second hypothesis stated that there is a positive relationship between using of e-commerce and company's competitiveness. According to the proof of this hypothesis, it can be stated:

- Using e-commerce will help insurance companies to gain better competitive standing in the marketplace.
- Using e-commerce will enhance insurance companies' image in market.
- Using of e-commerce will improve insurance companies' relationship with suppliers.
- Using of e-commerce will improve insurance companies' quality of communication (rapid exchange of information).
- Using of e-commerce will offer insurance companies an opportunity to gain useful knowledge on how to operate your company in competitive market.
- Using e-commerce will enhance insurance companies' market reach.

Third hypothesis indicate that there is a positive relationship between using of e-commerce and organizational performance. Thus, companies can take advantage of the benefits of e-commerce which are following:

- Using of e-commerce will improve insurance companies' level of business transactions.
- Using of e-commerce improve insurance companies performance by differentiated products & services from competition.
- Using of e-commerce improve insurance companies performance by Advance Technological infrastructure to meet the dynamic consumer demands.
- Using of e-commerce improve insurance companies performance by efficient deals/packages/inventory distribution system.
- Using of e-commerce improve insurance companies performance by improve staff skill.
- Using of e-commerce improve insurance companies performance by tailoring services to suit individual clients.

6.4 Major Obstacles

What are the major obstacles insurance companies face in running e-commerce? Traditional insurance companies need to adapt to new e-commerce applications. Not only in terms of direct costs, such as providing the suitable infrastructure also, in terms of indirect costs, such as revamping their business processes and corporation (SwissRe, 2000). Some obstacles to using e-commerce are, low level of community awareness of e-commerce and online shopping, low internet usage, especially among older people, network security issues, expensive and complicated methods of e-commerce, failure to match current products and services with online offers, lack of expert staff, traditional attitudes and organization perspectives ,organizational noncompliance and resistance to change, negative reaction from agents, intermediaries, brokers, lack of internet crime laws such as copy right, lack of supportive sectors such as banks.

6.5 Recommendations

This section contains some recommendations for future new research and hopes that these suggestions encourage others to increase their knowledge about the impact of e-commerce on Iranian insurance companies. Consequently, insurance industry can more easily benefit from electronic commerce and come over on obstacles on the way.

As mentioned in the previous chapters, As far as Iranian insurance companies concern most experts and staff believed that customers were totally interested in buying various types of insurance online but both buyers and sellers for trading and paying need to expand their E- banking securely.

The next recommendation is to extend of this study. This research have focused on insurance companies (head quarter and insurance agents) and other alternatives did not consider such as brokers, Insurance services provider, government and especially customers and society since customer demands is decisive factor and customer satisfaction plays a important role in transaction. Therefore, future researches could make several extensions of the current research.

This study utilized quantitative approaches. It is strongly recommended to run another survey with qualitative approach in order to discover the unknown angles which cannot be answered with this study.



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APPENDIX A: CFA FACTOR LOADINGS

	Estimate	S.E.	C.R.	P	Label
Item5 <--- Reducing cost	1.000				
Item4 <--- Reducing cost	.752	.252	2.981	.003	
Item3 <--- Reducing cost	1.031	.249	4.132	***	
Item1 <--- Reducing cost	.954	.218	4.386	***	
Item11 <--- Company Competitiveness	1.000				
Item9 <--- Company Competitiveness	.858	.180	4.753	***	
Item8 <--- Company Competitiveness	1.297	.196	6.602	***	
Item7 <--- Company Competitiveness	1.298	.184	7.071	***	
Item17 <--- Organizational performance	1.000				
Item14 <--- Organizational performance	1.323	.232	5.713	***	
Item13 <--- Organizational performance	1.040	.189	5.487	***	
Item12 <--- Organizational performance	.537	.145	3.710	***	
Item23 <--- Using Ecommerce	1.000				
Item22 <--- Using Ecommerce	1.041	.329	3.167	.002	
Item20 <--- Using Ecommerce	2.861	.682	4.196	***	
Item19 <--- Using Ecommerce	2.771	.655	4.234	***	

APPENDIX B: CFA FACTOR LOADINGS

			Estimate	S.E.	C.R.	P
Reducing cost	<---	Using Ecommerce	1.000			
Company Competitiveness	<---	Using Ecommerce	2.047	.453	4.522	***
Organizational performance	<---	Using Ecommerce	1.965	.442	4.441	***
Item5	<---	Reducing cost	1.000			
Item4	<---	Reducing cost	.827	.258	3.204	.001
Item3	<---	Reducing cost	.974	.248	3.928	***
Item1	<---	Reducing cost	.894	.216	4.141	***
Item11	<---	Company Competitiveness	1.000			
Item9	<---	Company Competitiveness	.865	.183	4.721	***
Item8	<---	Company Competitiveness	1.323	.200	6.603	***
Item7	<---	Company Competitiveness	1.259	.184	6.824	***
Item17	<---	Organizational performance	1.000			
Item14	<---	Organizational performance	1.341	.228	5.869	***
Item13	<---	Organizational performance	1.007	.184	5.485	***
Item12	<---	Organizational performance	.555	.142	3.904	***
Item23	<---	Using Ecommerce	1.000			
Item22	<---	Using Ecommerce	.917	.325	2.823	.005

Item20	<--- Using Ecommerce	1.618	.433	3.734	***
Item19	<--- Using Ecommerce	1.248	.425	2.938	.003

APPENDIX C: Standardized Total Effects

	Using Ecommerce	Organizational performance	Company's Competitiveness	Reducing cost
Organizational performance	1.965	.000	.000	.000
Company's Competitiveness	2.047	.000	.000	.000
Reducing cost	1.000	.000	.000	.000
Item19	1.248	.000	.000	.000
Item20	1.618	.000	.000	.000
Item22	.917	.000	.000	.000
Item23	1.000	.000	.000	.000
Item12	1.090	.555	.000	.000
Item13	1.978	1.007	.000	.000
Item14	2.634	1.341	.000	.000
Item17	1.965	1.000	.000	.000
Item7	2.577	.000	1.259	.000
Item8	2.709	.000	1.323	.000
Item9	1.771	.000	.865	.000
Item11	2.047	.000	1.000	.000
Item1	.894	.000	.000	.894
Item3	.974	.000	.000	.974

	Using Ecommerce	Organizational performance	Company's Competitiveness	Reducing cost
Item4	.827	.000	.000	.827
Item5	1.000	.000	.000	1.000

APPENDIX D: Normality Assessment

	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Item 1	4.3067	.74136	-1.564	.198	4.603	.394
Item 2	4.3933	.75881	-1.734	.198	4.715	.394
Item 3	4.0933	.93656	-1.132	.198	1.263	.394
Item 4	4.3600	.87685	-1.743	.198	3.500	.394
Item 5	4.2600	.79790	-1.548	.198	3.663	.394
Item6	4.3133	.58087	-.169	.198	-.604	.394
Item 7	4.2133	.70078	-.322	.198	-.929	.394
Item 8	4.2600	.77225	-1.461	.198	3.720	.394
Item 9	4.2867	.77144	-1.523	.198	3.925	.394
Item 10	4.3667	.62837	-.469	.198	-.645	.394
Item 11	4.2333	.65964	-.291	.198	-.742	.394
Item 12	4.3267	.66045	-.470	.198	-.722	.394
Item 13	4.3667	.63897	-.504	.198	-.649	.394
Item 14	4.1600	.76043	-.742	.198	.436	.394
Item 15	4.2667	.62031	-.248	.198	-.604	.394
Item 16	4.3933	.62280	-.516	.198	-.619	.394
Item 17	4.4000	.64506	-.608	.198	-.598	.394
Item18	4.5600	.53696	-.638	.198	-.798	.394
Item19	4.4333	.52350	-.014	.198	-1.368	.394
Item20	4.5467	.52567	-.470	.198	-1.166	.394
Item21	4.5133	.54015	-.442	.198	-1.020	.394
Item22	4.4667	.53928	-.256	.198	-1.137	.394
Item23	4.5333	.52669	-.414	.198	-1.220	.394

APPENDIX E: Assessment of Normality

Variable	min	max	Skew	c.r.	Kurtosis	c.r.
Item18	3.000	5.000	-.631	-3.157	-.811	-2.028
Item19	3.000	5.000	-.014	-.068	-1.362	-3.405
Item20	3.000	5.000	-.465	-2.325	-1.168	-2.919
Item22	3.000	5.000	-.254	-1.269	-1.139	-2.847
Item23	3.000	5.000	-.410	-2.048	-1.219	-3.048
Item12	3.000	5.000	-.466	-2.328	-.738	-1.844
Item13	3.000	5.000	-.498	-2.492	-.668	-1.669
Item14	2.000	5.000	-.735	-3.673	.382	.955
Item17	3.000	5.000	-.602	-3.011	-.618	-1.545
Item7	3.000	5.000	-.319	-1.593	-.938	-2.345
Item8	1.000	5.000	-1.447	-7.234	3.557	8.893
Item9	1.000	5.000	-1.508	-7.539	3.756	9.389
Item10	3.000	5.000	-.464	-2.322	-.663	-1.658
Item11	3.000	5.000	-.288	-1.442	-.757	-1.893
Item1	1.000	5.000	-1.548	-7.740	4.411	11.028
Item3	1.000	5.000	-1.121	-5.603	1.182	2.955
Item4	1.000	5.000	-1.725	-8.626	3.345	8.362
Item5	1.000	5.000	-1.533	-7.664	3.503	8.757
Multivariate					26.602	6.071

APPENDIX F: Selected AMOS Output, CFA Model: Goodness-of-Fit Statistics

Model fit summary					
CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Final model	41	187.638	95	.000	1.975
Saturated model	136	.000	0		
Independence model	16	741.528	120	.000	6.179
RMR,GFI					
Model	RMR	GFI	AGFI	PGFI	
Final model	.043	.867	.810	.606	
Saturated model	.000	1.000			
Independence model	.126	.518	.454	.457	
Baseline Comparisons					
Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Final model	.747	.680	.857	.812	.851
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000
Parsimony-Adjusted Measures					
Model	PRATIO	PNFI	PCFI		
Final model	.792	.591	.674		
Saturated model	.000	.000	.000		
Independence model	1.000	.000	.000		

APPENDIX F: (continued)**Model fit summary**

Model	NCP	NCP	
		LO 90	HI 90
Final model	92.638	57.533	135.534
Saturated model	.000	.000	.000
Independence model	621.528	539.353	711.193

Model	FMIN	FMIN		
		F0	LO 90	HI 90
Final model	1.259	.622	.386	.910
Saturated model	.000	.000	.000	.000
Independence model	4.977	4.171	3.620	4.773

Model	RMSEA	RMSEA		
		LO 90	HI 90	PCLOSE
Final model	.081	.064	.098	.002
Independence model	.186	.174	.199	.000

Model	AIC	AIC		
		BCC	BIC	CAIC
Final model	269.638	280.199	393.074	434.074
Saturated model	272.000	307.030	681.446	817.446
Independence model	773.528	777.649	821.698	837.698

Model	ECVI	ECVI		
		LO 90	HI 90	MECVI
Final model	1.810	1.574	2.098	1.881
Saturated model	1.826	1.826	1.826	2.061
Independence model	5.191	4.640	5.793	5.219

APPENDIX G: Selected AMOS Output, CFA Model: Goodness-of-Fit Statistics

Model fit summary					
CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Final model	38	207.375	98	.000	2.116
Saturated model	136	.000	0		
Independence model	16	741.528	120	.000	6.179
RMR,GFI					
Model	RMR	GFI	AGFI	PGFI	
Final model	.045	.850	.792	.613	
Saturated model	.000	1.000			
Independence model	.126	.518	.454	.457	
Baseline Comparisons					
Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Final model	.720	.658	.830	.785	.824
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000
Parsimony-Adjusted Measures					
Model	PRATIO	PNFI	PCFI		
Final model	.817	.588	.673		
Saturated model	.000	.000	.000		
Independence model	1.000	.000	.000		

APPENDIX G: (continued)

Model fit summary

Model	NCP	NCP	
		LO 90	HI 90
Final model	109.375	71.800	154.708
Saturated model	.000	.000	.000
Independence model	621.528	539.353	711.193

Model	FMIN	FMIN		
		F0	LO 90	HI 90
Final model	1.392	.734	.482	1.038
Saturated model	.000	.000	.000	.000
Independence model	4.977	4.171	3.620	4.773

Model	RMSEA	RMSEA		
		LO 90	HI 90	PCLOSE
Final model	.087	.070	.103	.000
Independence model	.186	.174	.199	.000

Model	AIC	AIC		
		BCC	BIC	CAIC
Final model	283.375	293.163	397.779	435.779
Saturated model	272.000	307.030	681.446	817.446
Independence model	773.528	777.649	821.698	837.698

Model	ECVI	ECVI		
		LO 90	HI 90	MECVI
Final model	1.902	1.650	2.206	1.968
Saturated model	1.826	1.826	1.826	2.061
Independence model	5.191	4.640	5.793	5.219

APPENDIX H: All Item range from 1(Too low) to 5 (Too much)

Item code	Description
Item 1	To what extent, using of e-commerce help your company by cost reduction in value chain management?
Item 2	To what extent, using of e-commerce help your company by lower communication cost (phone and paperwork)?
Item 3	To what extent, using of e-commerce help your company by reducing cost of advertising?
Item 4	To what extent, using of e-commerce help your company by reducing cost of information research?
Item 5	To what extent, using of e-commerce help your company by reducing cost of transaction?
Item 6	According to you, Using e-commerce will help your company to gain better competitive standing in the marketplace?
Item 7	According to you, using e-commerce will enhance your company's image in market?
Item 8	According to you, using of e-commerce will improve your company's relationship with suppliers?
Item 9	According to you, using of e-commerce will improve company's quality of communication (rapid exchange of information)?
Item 10	According to you, using of e-commerce will offer you an opportunity to gain useful knowledge on how to operate your company in competitive market?
Item 11	According to you, using e-commerce will enhance your company's market reach?
Item 12	According to you, using of e-commerce will improve your level of business transactions?
Item 13	According to you, does using of e-commerce improve your company performance by differentiated products & services from competition?
Item 14	According to you, does using of e-commerce improve your company performance by Advance Technological infrastructure to meet the dynamic consumer demands?
Item 15	According to you, does using of e-commerce improve your company performance by Efficient deals/packages/inventory distribution system?
Item 16	According to you, does using of e-commerce improve your company performance by improve staff skill?
Item 17	According to you , does using of e-commerce improve your company performance by tailoring services to suit individual clients
Item 18	How often do you use information systems and technologies while communicating inside the company?
Item 19	How often do you use information systems and technologies while communicating suppliers and customers?
Item 20	How often do you publish information on company's Website such as products, catalogues, brochures?
Item 21	To what extent, your company's IT infrastructure is suitable for E-commerce

	implementation?
Item 22	To what extent, your company is well computerized and has high bandwidth connectivity to internet?
Item 23	To what extent, your company accepts online transaction through the website that allows buying and selling?



RESUME

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Feb2016 Istanbul Aydin University, Department of Business
Administration
M. Sc. In MBA

Work Experience

Aug 2006-Agu 200, as an accountant for Rasa Company for one year, company's field

of activity is extraction of oil

Aug 2007-May2008 as an accountant for Royal Company, company's field of activity is water refinery

May 2008-No 2014, as an internal manager for Hamahang Company, company's field of activity is import and sale of vet medicines

Computer Software Familiarities

Financial and accountancy software: Rafe, Mehrpardaz, Bitu
Microsoft Office (Word, Excel, Power Point)

Language Proficiency

Persian mother tongue
English

Moral character

Motivated
Active
Responsible
Optimistic