

Comparative study of effect of E-commerce on tax structure in selected countries: suggestions to improve tax system of Iran

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ABSTRACT

E-commerce that has undergone an increasing trend in recent years has been regarded as the modern method for transfer of information and economic exchange. This phenomenon brings about massive changes in most of relations between various economic institutions. Such changes have also occurred in tax systems. Hence, the present research aims to investigate effect of E-commerce on tax structure in European Union Countries. To achieve aims of study, content analysis method which is an authentic method in research methodology at the area of social science was used. Searching the collection of research studies has been during 2000-2014. Findings of the present research indicated that respective governments engage in imposing value-added tax (VAT). Further, it has been indicated that e-commerce plays a potential role in economic growth and job creation in European Union Countries. In general, it can say that as dual role of e-commerce on tax system raises reduction of government's tax revenue in a short-term on one hand and raises economic growth and improvement of employment status on the other hand, thus adoption of tax Macro Decisions must be taken into account with a deep consideration.

Keywords

E-commerce, tax structure, value-added tax, European Union Countries

Introduction

Advancement of information and communication technology in two recent decades and expansion of its applications at various social and economic areas raised formation of a new area of mutual relations between individuals, entities, companies and governments. New concepts are emerging in economic and trade literature that have reviewed the traditional methods in trade and business under which new economic activities and occupations have been formed. These changes have a substantive effect such that some scholars have known the development in

information and communication technology as the greatest technological revolution followed by industrial revolution at the late of nineteenth century. This point in the economic history of the world can be called new international economic order. Nowadays, no one can be found who has not used electronic services in at least one of his activities. Indeed, services search behavior of consumers and how to select services among different commodities get along with evolution. There are a variety of definitions for e-commerce, that some call all the business and financial transactions through e-services and all the activities pertaining to credit-debt cards as e-commerce. Some others know e-commerce limited to Retail Sales to the consumers in which transaction and cost of commodities and services are paid through internet. With regard to a definition, e-commerce implies purchase and sale of commodities, services and information through computer networks including internet (Tourban, 2006). OECD member countries have made huge efforts to represent a standard definition and measure e-commerce.

Questions of research

- why e-commerce affects tax system?
- how e-commerce affects tax system?
- to which extent e-commerce affects tax system?

Tax system encompasses legal processes under supervision of institutions to collect a variety of taxes from different economic sectors, considering the obtained interests as the government's revenue (Chen, 2012). In recent years, various articles have been conducted at the area of e-commerce, of which it can refer to the article by Dizaji & Shafaei (2013) who showed that e-commerce affects state tax revenue. These scholars stated that due to important effects of tax on rate of economic growth in countries, it must consider that the factors such as e-commerce and internet-based exchanges can influence tax rate. Malayeri (2012) in his study investigated the problems to implementation of e-commerce

in Iran; he examined experiences of several countries which monitored e-commerce and government responses.

Guilani nia et al.(2011) examined application of e-commerce in Iran and deduced that e-commerce paves the way for transaction with higher speed and efficiency and lower costs. Further, they announced that identification of existing structural and institutional barriers is the most important step for design of e-commerce. Tayeb nia & Siavashi(2009) represented a pattern for taxation from Iran's e-commerce using Delphi method and non-parametric tests. This study indicated that building a secure space as a proper infrastructure for electronic funds transfer by the government has an economic justification.

Hale & McNeal (2011) in a study "Technology, politics, and e-commerce: Internet sales tax and interstate cooperation" examined the relationship between e-commerce, government funding, and rate of revenue obtained through taxes on sale at state level. Ahmed & Hegazi (2007) in a study "A dynamic model for e-commerce taxation" examined the process of changes in the framework for taxation in Egypt and proposed a model concerning the issue over e-commerce.

Blythe, S. E. (2005) examined electronic signature in European Union Countries, U.K and U.S. He stated that electronic signature raises increasing the ability to sign electronic contract and detecting the identity of the contractors.

Lund & Mcguire (2005) examined role of e-commerce on economic growth and indicated that growth of e-commerce raises economic growth and increases individuals' revenue. Lau et al. (2003) in their study deduced that development of e-commerce has raised emergence of virtual entities and organizations.

Bristol (2001) in a study investigated impact of Electronic Commerce on Tax Revenues in the Caribbean Community. Using a static micro-economic approach, he indicated that tax revenues increase by expansion of export markets.

Newman (1995) in his study deduced that a majority of people in United States of America do not pay taxes for their internet purchases, and local governments and central government have concerned on undermining the government by influence of internet. Ernst & Young in their study indicated that not paying taxes for internet purchases damaged to economy of United States for over 170 million dollar.

Mahmoudzade & Hassanzade(2013) conducted a study entitled "taxes on electronic trade: an introduction into formulation of taxes on e-commerce in Iran". These scholars indicated that e-commerce widely affects sales tax, yet it is followed by limited effect on taxation from wealth. For this, the reason lies on digital transactions without a database to register transaction. Further, they showed that e-commerce raises improvement of taxes on imports, for which there are certain international rules.

Haj Karimi & Aziz (2008) examined factors affecting utilization of e-commerce in small companies. Using a questionnaire, they showed that a variety of contributing factors including organizational readiness, the benefits of e-commerce, market dynamism, capacity of innovation and risks of e-commerce have affected utilization of e-commerce in small companies.

Miri(2007) in his study examined indicators of e-commerce in Iran. in this study, he has proposed a variety of definitions concerning e-commerce and engaged in analyzing and classifying the indicators of e-commerce. This study aims to investigate experiences and strengths and weaknesses of structure and policies of taxation on e-commerce in selected countries.

Problem statement

In this section, the method used in this study is elaborated. This study aims to represent a comparative study on experiences of different countries in the context of taxation on e-commerce. Further, economic, social and structural features and characteristics of the selected countries under study, tax structure and policies of selected countries, experiences of tax system in the selected countries concerning e-commerce have been examined and the findings have been analyzed, for which suitable approaches for Iran have been elaborated. Without doubt, utilization of information technology has been regarded as a necessity to increase trade efficiency in national economy. Nowadays, use of internet and technology-based businesses by companies has been transformed to a means to acquire competitive advantage at businesses (Maity & Dass, 2014).

Undergoing new developments at 21th century and globalization of market followed by emergence of new trade and marketing strategies which have been developed under influence of rapid advancement of science and technology, a majority of economists and experts have believed that a revolution similar to industrial revolution has occurred in recent years. This revolution has caused the world to enter into the age of information, under which most of economic, social and cultural aspects of human life have undergone a deep development and reached to a new level of dynamism by exploitation from modern technologies. E-commerce is one of the major manifestations for the space of modern economy(Tourban, King, & Lee, ۲۰۰۶). Europe Commission describes e-commerce based on electronic processing and transmission of data , including text , audio and video. E-commerce refers to various activities including electronic exchange of goods and services, immediate delivery of digital content, Electronic funds transfer (EFT), Electronic stock exchange, electronic waybill, business plans, Joint Design and Engineering, Sourcing of government purchases, direct marketing and after sale services(Cockfield, ۲۰۰۶). In other words, e-commerce refers to a series of activities and services that pave the way for searching information, managing

information and exchanges, investigating credit status, building credit, paying via virtual system, reporting and managing credits in internet via digital communication (Huang & Benyoucef, 2013). Yet, the individuals who use e-commerce around the world face a weird confusion in national and international tax rules. For instance, in online transactions between two persons of two different countries with different tax rules, determination of the place in which transaction was made as well as tax rule governing the transaction are questioned (Malayeri, 2012). E-commerce has made impractical for the tax practitioners to observe information and perform taxes.

Taxpayers might disappear in virtual space in order that no one knows where they are. When position of a standing firm for an internet merchant is recognized, taking tax from him will be difficult because the time and place of transaction is uncertain. Further, using interrelated servers among various tax realms that exchange bookmarks from a server to other servers to balance the network traffic and recognizing which server is used for an activity have been much more difficulty leading to increasing complexities (McLure, 1999). Hence, under such conditions, space faces limitation to enforce government duties such as removal of security in taxation from e-exchanges. Hence, most of western countries intend to minimize the rate of loss of taxation in e-commerce exchanges through applying a new purposeful tax on internet sales, and this can be a solution to avoid reducing tax revenue of governments. Rate of e-commerce is still limited, yet it is increasing. On one hand this phenomenon is a negative point, yet it is better from this perspective that the actual problem has not been started yet and if we look into future and start useful actions regarding experiences of pioneer countries, we will be more equipped for exposure with upcoming processes. Hence, this study aims to investigate experiences and strengths and weaknesses of tax systems on e-commerce within selected countries.

Research method

In this research, the considered variable includes the Countries under study. The published reports and articles during 1990-2014 in the context of elaborating tax systems in e-commerce management in selected countries have been selected and analyzed using content analysis method. In the first step, searching information databases such as ScienceDirect and authentic websites such as UNCTAD.org is considered so as to find scientific sources and articles. In the second step, after retrieval of information pertaining to experiences of Europe Union countries, extraction of important findings and information is considered. The used studies include review studies, and historical and empirical studies. After classification of articles based on the selected countries, the findings about experiences and strengths and weaknesses of tax system on e-commerce are extracted. Then,

with regard to the adaptability and the ability to generalize the tax policies of the countries under study and the obtained conclusions, suitable suggestions and approaches to change and balance country's tax system for a better management of e-commerce will be proposed. Ultimately, with an emphasis on the obtained findings and current conditions of country, a pattern will be proposed to organize and manage the tax system in Iran's e-commerce. All the scientific studies and state and union reports associated to the title of research are considered as the sample. The statistical population consists of European Union countries. The present research is a review study conducted based on findings and experiences of European Union countries. The retrieved information was measured via observational study, comparative analyses and content analysis method.

Findings of research

By an early search in mentioned databases, 178 associated articles were retrieved that all the articles were entered into software EndNote. In the first step, title and abstract of all the articles were examined and the cases which have been associated to the research title were specified, and rest of articles was removed from the research. During the first step, 96 cases of the retrieved articles were removed from the study. In the next step, text of the remained articles was examined. Therefore, 37 among 82 articles were associated to European Union, and access to text of articles was not possible in 18 cases. Ultimately, 17 articles had all the inclusion and exclusion criteria of the present research, which were entered into the content analysis step.

Process of selection of the articles entered into the content analysis is observed in following.

The highest frequency for publication in 2001 has been reported with publication of four articles and publication of three articles has been ranked in the second position. Geography of the included studies has been classified in several groups, and this classification has been organized based on aims of study and possibility for availability to the articles. As observed in figure below, the highest frequency of the articles has been witnessed in geography of European union that has been ranked in second position associated to the Europe besides the articles categorized in China. Table 2 indicates frequency of each of suitable terms to consider aims of research in the studies included in content analysis.

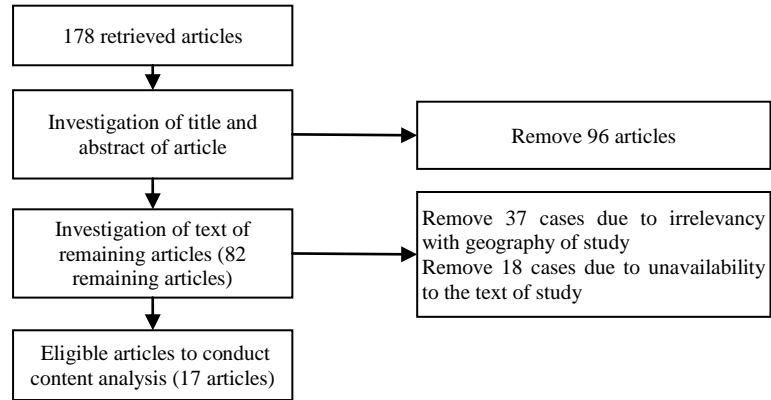
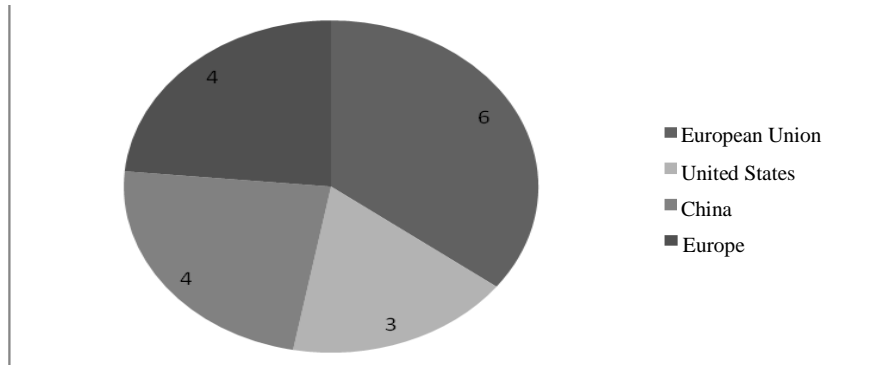


Figure 1. Process of selection of final studies



Geography area of the final studies

Table 2. Content analysis of final studies

Selected terms				e-commerce	(Tax)System	Taxation	Code of study
Value-added tax	effect	Revenue	Impact				
0	6	0	2	35	0	1	1
4	8	2	0	27	0	16	2
2	8	6	3	21	12	4	3
47	4	9	1	49	35	46	4
7	5	7	2	44	11	24	5
0	10	2	5	17	0	8	6
4	0	4	1	26	6	19	7
0	3	28	0	58	44	14	8
0	3	7	0	59	16	17	9
0	0	7	4	38	2	10	10
0	1	12	3	39	0	30	11
0	0	57	4	21	4	2	12
22	4	15	7	51	23	43	13
40	2	7	2	35	11	8	14
0	2	31	0	20	12	5	15
2	3	4	5	84	15	41	16
0	1	2	2	15	0	36	17
128	60	200	41	639	191	324	sum

Effect of E-commerce on economy of European Union Countries

In 2013, total gross domestic product in Europe continent has been equal to 16.4 Trillion Euros that gross domestic product of 28 members in European union develops about 80% of this amount. It is estimated that e-commerce share in Europe's gross domestic product has been equal to 2.2% under which it is predicted that this rate will be doubled by 2016(report, 2014b). The number of jobs which have been directly or indirectly created through e-commerce in this union has been about 2 million job opportunities. According to the existing data, over 546 thousand websites serve in European Union in which e-commerce and web-based exchanges occur. This high rate of e-commerce raises development of some industries in European Union such as industrial products. Evidences indicate that this rate has reached to 3.7 million in 2013(report, 2014b). in 2013, average rate of internet influence has reached to 74% in Europe, and this rate reaches to 77% in member countries in European union. Ten early countries in the context of influence of internet in Europe consist of Norway, the Netherlands, Denmark, Sweden, Finland, Great Britain, Germany, France, Belgium and Switzerland. Yet, all the European countries do not use potential of e-commerce in the same extent. Ten early countries in the context of e-commerce in Europe consist of Great Britain , Germany , France , Russia , Spain , Italy , Austria, the Netherlands, Finland and Switzerland.

Challenges in taxation from e-commerce and how are current financial actions in European Union

Increasing rate of electronic transactions in European union obliged the politicians to enforcing taxes on e-commerce market so as to avoid reducing revenues from taxation on goods and services. e-commerce has changed the process of taxation on goods. It can pay a particular attention to this point from different aspects, that is, firstly e-commerce has annihilated process of distribution of goods and services resulting in removal of mediators(McLure Jr, 2001). If the product is provided for the customer through retail seller as the process in traditional transactions, removal of mediators raises increasing consumer's welfare on one hand and raises problems in traditional principles of identification of tax payers which have been based on process of distribution of good. This phenomenon spontaneously decreases frequency of identification of economic transactions and decreases rate of tax revenue (Frecknall Hughes & Glaister, 2001). On the other hand, due to wide range of e-commerce, it seems that e-service providers in abroad who sell their goods and services without paying taxes compared to the e-service providers inside the country had raised emergence of injustice and inefficiency in tax system of European countries. Further, the

purchases which occur overseas by the international service providers raise increasing rate of transport of physical goods to the customers inside country. As these low-cost packages are excluded from the taxes due to their little financial value have raised decreasing tax revenues(Jones & Basu, 2002). Yet, some scholars argue that increasing e-commerce raises increasing productivity and individuals' revenues and improving economic efficiency, so that increasing tax revenues will come to realize by increasing capacity of economic market. As evidences indicate, development of e-commerce has raised job creation in European union to the extent of 2 million jobs(report, 2014b). due to existing scientific and political conflicts, economists in European union agreed on Value Added Tax applied to e-commerce. According to recent findings, most of member countries in European Union used value added tax as the common method for taxation from e-commerce. According to table below, rate of value added taxes in member countries in European union has been represented.

Table 3. rate of value added taxes in member countries in European union

Country	Monetary unit	rate of value added taxes to e-commerce	Population
Austria	Euro	20%	8.4
Belgium	Euro	21%	11.1
Bulgaria	Liu	20%	7.2
Croatia	Kuna	25%	4.2
Cyprus	Euro	18%	.8
Czech Republic	krona	21%	4.4
Denmark	krona	25%	5.6
Estonia	Euro	20%	1.3
Finland	Euro	24%	5.4
France	Euro	19%	65.5
Germany	Euro	19%	82
Greece	Euro	19%	11
Hungary	forint	19%	9.9
Ireland	Euro	23%	4.5
Italy	Euro	22%	59.6
Latvia	Lats	21%	2
Lithuania	litas	21%	2.9
Luxembourg	Euro	15%	.5
Malta	Euro	18%	.4
Netherlands	Euro	21%	16.7
Poland	Zloty	23%	38.5
Portugal	Euro	23%	10.4
Romania	Leu	24%	20
Slovakian	Euro	20%	5.4
Slovenia	Euro	22%	2
Spain	Euro	21%	46.7
Swedish	krona	25%	9.5
Great Britain	Pound	20%	63.8

As observed, member countries in European Union have selected rate of Value-added tax (VAT) about 20%-25%. Among these countries, Cyprus and Malta have applied the least rate of value-added tax (VAT) equal to 18%. Hungary has applied rate of value-added tax (VAT) equal to 27% as the highest rate of tax on e-commerce. Yet, some countries

have used some tax exemptions for state support and improvement of business environment, e.g. taxes will not be included in U.K, if rate of e-commerce falls under a certain limit(report, 2014b). Activity volume and market share in three countries including U.K, Germany and France span 61% of all the e-commerce market throughout Europe, an explanatory summary for each of these three countries is considered in following.

E-commerce in U.K

E-commerce market in U.K has enjoyed a potential development. U.K has the greatest e-commerce market throughout Europe, that turnover rate of this commerce has reached to 107.1 million Euros in 2013. It can say that electronic trading volume in U.K is about one third of the entire transactions in Europe. According to the statistics in 2013, about 41 million purchasers of e-services served in U.K, so that averagely each of purchasers purchased e-services for about 2.613 million Euros in 2013. This is not far from imagination that 91% of the entire population in this country engages in online services. Websites Amazon, Tesco and eBay in turn with 16%, 9% and 8% market share have been regarded as three major actors in U.K's e-commerce market with a potential role. Reports indicate that about one third of all e-purchases in U.K have been made through cell phones.

E-commerce in Germany

Germany followed by U.K enjoys the greatest e-commerce market share in European Union. In 2013, over 63.4 million euro economic transactions have been made through e-commerce in this country. Internet has influenced for about 86% in this country, under which it can say that average cost for each purchaser through e-commerce has been about 1.585 euro. Findings indicate that 2.3% of gross domestic product in 2013 has been associated to e-commerce in Germany. The goods and services which have been purchased through internet enjoy suitable diversity. According to the report by European union about e-commerce, it has been announced that 21% of cinema tickets, 50% of travel tickets, 32% of vehicle insurance and 16% of housing insurance have been arranged via internet. Further, it has been stated that 70% of hotel bookings and 67% of entertainment flights have been arranged via internet. As known, most of internet transactions have been associated to travel services (report, 2014a).

E-commerce in France

In 2013, e-commerce turnover had reached to 51.1 million euro in France. This great volume of internet transactions has caused France to acquire the third rank among member countries in European Union. The rate of internet influence in France is reported about 84%,

encompassing a population of 55 million, of which 34 million people engaged in online purchase. Under such circumstances, average purchase rate via online system has been about 1.503 euro. 2.48% of gross domestic product has been associated to e-commerce. French people(2013) engaged in over 600 million online transaction(report, 2014c).

Conclusion

E-commerce cannot be denied and left free without exercise of rules. It can say that e-commerce as a modern method to fulfill business and economic transactions has been conventionalized in most of countries around the world. Iran should have adopted e-commerce for transaction regarding experiences of the countries. The present research is among the early cohesive and structured studies which has studied experiences of various countries in relation with the linkage between e-commerce and tax system. It is hoped that the present research is looked as a starting point for rest of studies at this area so as to acquire suitable approaches for control over adverse effects of e-commerce and exploitation from advantages of this commerce.

Suggestions

With regard to what discussed in this study, the suggestions below have been represented:

- the government should engage in e-commerce market to handle economic affairs so as to avoid adverse effects of e-commerce on government revenues.
- by creation of a suitable and secure infrastructure, government can provide necessary conditions for exchange of information in a secure way for the parties involved in e-commerce
- Tax rate that is supposed to be taken based on internet exchange must be considered regarding the extent to which government involved in e-commerce to avoid corruption and effect of e-commerce on tax revenues
- concerning taxation from e-commerce, most of leading countries have selected value-added tax (VAT) as a specific method for response of tax system to e-commerce.
- percent of value-added tax (VAT) should have been regulated based on macro-policies so as to expand e-commerce as much as possible.
- government should have provided conditions to involve in private sector in order to provide secure internet spaces and internet-based services.
- government must set some tax exemptions for small exchanges and target groups.
- Suggestions for upcoming research
- investigate how the long-term effect of e-commerce has been on rate of economic growth in developing countries
- investigate rate of tax threshold in small electronic exchanges in internet space
- investigate the approaches to develop e-commerce regarding technology and information infrastructures

- investigate system's high documents in the context of development of e-commerce and expansion of modern economic exchanges
- identification of barriers to measurement of e-commerce indicators and representation of approaches to resolve barriers

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