

Providing a Model to Estimate the Tax Capacity of E-Commerce

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Abstract: Today, the tax policies of countries have failed after the development of e-commerce. For this purpose, the current research was conducted with the aim of providing a model for estimating the tax capacity of e-commerce. This study was conducted in two parts: qualitative and quantitative. In the qualitative part, the dimensions and components of the tax capacity of e-commerce were identified by the grounded theory method (grounded data) and were categorized into six main networks of the foundation data method. In the quantitative part, the identified variables were modeled by structural equations, and thus, the tax capacity of e-commerce was obtained for each variable. The statistical population in the qualitative section consists of experts and specialists in the field of taxation and e-commerce, including university professors and experimental experts. The sample size was obtained by judgmental sampling, and the saturation level was equal to 15 people. Thus, semi-structured interviews were used as a data collection tool in the qualitative section. In the quantitative part, statistical data related to the components identified in the qualitative part were collected seasonally in the period of 2015-2016. Based on the results of the qualitative section, 6 main networks and 33 sub-components were identified for the tax capacity of e-commerce. Based on the results of the quantitative part, the variables of the nominal value of the volume of electronic transactions from the central phenomenon; the penetration rate of social networks from causal conditions; government income from background conditions; capital market circulation from interfering conditions; the welfare of consumers from the strategies and the contribution of internet shopping transactions to the total banking transactions have the greatest impact on increasing the tax capacity of electronic commerce.

Keywords: tax capacity, e-commerce, grounded data.

提供一个模型来估计电子商务的税收能力

摘要: 如今，电子商务发展之后，各国的税收政策已经失效。为此，当前的研究旨在提供一个模型来估算电子商务的税收能力。本研究分两部分进行：定性和定量。在定性部分，通过扎根理论方法（接地数据）确定了电子商务税收能力的维度和组成部分，并将其归类为基础数据方法的六个主要网络。在定量部分，通过结构方程对识别出的变量进行建模，从而得到每个变量的电子商务税收能力。定性部分的统计人口由税收和电子商务领域的专家和专家组成，包括大学教授和实验专家。样本量是通过判断抽样获得的，饱和度等于 15 人。因此，半结构化访谈被用作定性部分的数据收集工具。在定量部分，与定性部分确定的成分相关的统计数据是在 2015-2016 年期间按季节收集的。根据定性部分的结果，确定了电子商务纳税

能力的 6 个主要网络和 33 个子组件。基于定量部分的结果，从中心现象变量电子交易量的名义价值；因果条件下社交网络的渗透率；来自背景条件的政府收入；资本市场流通不受干扰的情况；策略带来的消费者福利以及网上购物交易对银行交易总额的贡献对提高电子商务的税收能力影响最大。

关键词: 纳税能力、电商、落地数据.

1. Introduction

Today, many of people's social and business interactions have been moved to cyberspace, and virtual communication is a major reason for users to use cyberspace. In the meantime, social networks play a crucial role; it should also be noted that in today's dynamic world, the effective use of technologies is one of the requirements for the success of organizations. Social media is a combination of technology and mixed media that is able to create real-time communication, and by using multimedia format and different operating systems, it provides different services with global accessibility [1]. Technology change and globalization are future challenges that will have a great impact on the organizations' marketing services and information resources. One of the main issues in this regard is uncertainty and changes in organizations. These changes have great effects on marketing services and resources [2].

The effects of globalization and rapid developments in knowledge and technology have increased the scope of electronic commerce. E-commerce allows commercial companies to offer their goods and services worldwide differently and it also makes it easier for consumers to obtain goods and services. The rapid growth of e-commerce has created a new paradigm in business around the world, and a huge amount of e-commerce market is growing in China, Asia, and the Pacific [3]. Online shopping has exploded in the past decade with the proliferation of smartphones, tablets, and other portable electronic devices, and many businesses are using the Internet as a retail tool. The growth and globalization of e-commerce has equipped customers with a convenient way to shop [4].

The total worldwide market size for virtual environments is expected to grow from US\$27 billion in 2018 to US\$209.2 billion by the end of 2022 [5]. Many companies recognize the opportunities of e-commerce and the importance of online presence. Therefore, the share of online retail sales of total retail sales will continue to increase in the future [4]. One of the main concerns of countries, commercial companies and consumers who want to become a member of electronic commerce. It is the tax arising from it. Issues such as tax loss and tax evasion, become a basic problem in particular countries. Problems such as

uncertainty and double taxation make e-commerce members not interested in this type of business. aphid with cane. And this issue has a negative impact on the growth and expansion of e-commerce [6].

Electronic tax is a system in which tax information and services are provided online to taxpayers and they are allowed to complete tax declarations and obtain tax documents through the Internet and pay their taxes electronically. Tax policies of countries have failed after the development of e-commerce. Concepts such as permanent establishment, points of sale, product, and classification of income have been left inconclusive using the tax process. While it is difficult to determine the location of the seller and consumer in a transaction on the Internet, it has decreased tax revenue. E-commerce allows companies to earn money without physical presence. Because of this feature of e-commerce, tax authorities rarely receive information about the tax that should be collected, resulting in a tax evasion.

In electronic commerce, location selection, the digital nature of products, the emergence of new assets, and the method of electronic registration and payment are important issues. In this way, businesses and consumers can exchange digital goods without registration. E-commerce improves import taxes despite specific international laws. Research results show that e-commerce has a small impact on wealth tax and the most impact on sales tax. In the short term, the exemption for electronic commerce has a small reduction in tax revenues, but in the long term, it involves great costs. The development of electronic commerce requires an appropriate legal framework to ensure companies and individuals have adequate protection during financial transactions [7].

The country's capacity in the field of digital content and information technology industry is more than 140 thousand billion units, of which only 35 thousand billion units have been obtained. The growing trend of this industry is rapidly taking shape. It is obvious that all governments are trying to revive tax revenues and increase them. This case is more important in countries such as Iran, which relies on oil revenues and is affected by international developments in this area, seeking to revive its economic system and free itself from the impulses of the global economy. The sooner

governments do not adopt policies, the tax base will be negligible and they will lose part of their income. E-commerce in our country is still in its early stages of development and is in its early stages of formation. Applying unprincipled taxes in this area can generally hinder the growth and development of this emerging industry and prevent the basic formation of this industry in the country. Therefore, the determination of the tax rate in this field requires detailed and principled studies with documented planning. Since no practical solution has been implemented regarding the taxation of e-commerce, the current research has attempted to estimate the tax capacity of e-commerce. Therefore, this study was conducted with the aim of providing a model for estimating the tax capacity of e-commerce.

2. Hypothesis Development

E-commerce started around 1965, when with innovations such as electronic funds transfer (EFT), consumers were able to receive their money through ATMs and make purchases using credit cards [8]. Before the development of industrial technologies on the Internet in the early 90s, large companies started to create computer networks with specific, limited, and standard communications to exchange business information among themselves. This method is called Electronic Data Interchange (EDI) [8]. With the invention of the electronic data exchange system and making it possible to exchange documents of organizations electronically, the applications of e-commerce have expanded to transactions other than financial transactions [9].

One of the important events in the field of electronic exchanges was the phenomenon of the Internet. The Internet was first launched by the US government in 1969. At that time, only American government agencies and academic researchers constituted Internet users [8]. E-commerce was formed with the introduction of the Internet into the world of business and commerce from the beginning of the 1990s, and the applications of e-commerce expanded rapidly due to the development of new standards and networks, e-commerce software, and increased competition between companies [9].

Since 1995, Internet users have witnessed the significant development of Internet applications in various fields, including instant sales markets and electronic education. Even now, most medium and large organizations in the world have personal websites [8]. From 1999, the emphasis and importance of e-commerce was transferred from B2C to B2B, and from 2001, it was also transferred from B2B to B2E [9].

In general, the leap of information technology has passed two periods of twenty years and now it has entered the third period:

- 1955-1974: The era of electronic transfer of funds
- 1975-1994: the era of management information systems (MIS)

- 1995-2014: Internet era

In just a decade, the astonishing growth of the Internet has reached a critical mass that now turns millions of consumers and billions of dollars into a giant and growing virtual shopping mall. Tax systems and especially international tax combinations can struggle to keep pace with globalization and market liberalization [10]. With the rapid development of information and communication technologies in recent years, several e-commerce platform companies have emerged [11]. An e-commerce platform, for example B2B e-commerce, creates a typical two-way market consisting of the platform company and the selling and buying companies [12]. As an intermediary company, the platform company facilitates the interactions of buyers with sellers by receiving a reasonable transaction fee from each party. Successful B2B platforms not only allow buyers to access richer market information and reduce overall purchasing costs by effectively searching and finding sellers that offer a critical set of goods and services [13], but also to sellers. They allow companies to easily and effectively reach more buyers and reduce marketing and communication costs [14]. (Lucking-Reiley & Spulber, 2001). Compared to traditional exchanges, e-commerce platforms have significant advantages, such as better customer solutions and lower transaction costs [14], and improving the performance of financial markets [15]. In this way, e-commerce platforms have become an important marketing channel that effectively facilitates business between buying and selling companies and ultimately leads to the improvement of the performance of companies and financial markets in general [16], and thus, significantly contributes to economic growth [12].

Previous research has confirmed that e-commerce is essential for traditional firms to acquire and retain customers, and improve firm performance [17]-[20]. Companies with a consistent e-commerce strategy can outperform their competitors because they better understand customer needs, anticipate market demand, and prioritize tasks to create customer value [21]-[23]. As a result, e-commerce can create competitive advantages and is a key driver of firm performance [24]-[28]. However, most e-commerce studies focus on traditional binary exchange relationships. Thus, [12] is one of the first studies to refine the e-commerce concept and apply it to the B2B e-commerce triad (seller-platform-buyer). In particular, they suggest that e-commerce in platform companies should be examined in two dimensions: overall e-commerce (both on the seller's side and on the buyer's side) and e-commerce asymmetry (in favor of one party over another). the other side).

Many of today's tax arrangements were developed in an era when tax authorities could rely on stock market controls to protect them from the negative financial effects of global activity. While companies

have become global, tax authorities are still confined to national borders. However, the priority should be to identify practical and reasonable ways to use internationally accepted tax norms when necessary to clarify or develop these norms in electronic commerce. The important point here is to maintain and strengthen the international dialog. The existing tax principles and VAT collection systems can be easily implemented in B2B (business to business) transactions, whether domestic or international.

The most important benefits and costs of imposing or not imposing a tax on electronic commerce are related to issues such as the loss of government tax revenue, competition with retail sales, foreign effects, distribution effects, and administrative costs. Proponents of the growth of e-commerce believe that e-commerce is a new method that is still in its early stages of growth, and if a tax is imposed on it in the current situation, this tax may cause a sharp fluctuation in its growth [29]. Politicians believe that not imposing a tax on e-commerce will cause the government to lose some of its tax revenue, and this issue becomes more important considering the potential growth of e-commerce [30].

Tax evasion in e-commerce is significantly higher than that in traditional companies [31]. Public trust and its impact on the implementation of e-government were investigated in [32]. Based on the obtained results, the age variable has an important effect on creating a sense of trust, such that the level of trust in e-government services increases with the decrease of people's age. Education has not played an important role in trust. Each of the other variables also had an impact on the level of trust. The gap of this research is more in the field of model weakness and operational suggestions about electronic taxation. The use of the Internet for trading with the government has a direct effect on external trust and self-efficacy [33]. It is noteworthy that although the quality of interaction is important, it plays a secondary role in determining the level of trust in internal self-efficacy and has no significant relationship with external political effectiveness. The role of tax problems in the development of e-commerce was investigated in [34]. Based on the results, the effects of globalization and rapid changes in knowledge are experienced and increase the level of e-commerce. Technology, policy, and electronic commerce were reviewed: Internet sales taxes and interstate cooperation [35]. The results showed that it is with the participation of the government that the existing technological capacity is increased and the participation is strengthened by the wider implementation of e-commerce and some specific political factors. The financial factors of the government and the implementation of electronic government are not significant. These findings have implications for understanding the impact of future

technological developments on government practices and inter-governmental relations focused on shared governance.

A positive and significant relationship between e-commerce and tax avoidance was shown in [36]. This means that the increase in e-commerce has increased tax avoidance. In fact, electronic commerce has made it difficult or impossible for tax officials to view information and implement taxes. The relationship between the development of e-commerce and tax evasion of commercial companies was investigated in [37]. The results of the research showed that there is an inverse and significant relationship between the development of e-commerce and tax evasion of commercial companies. Also, the development of e-commerce infrastructure, modification and development of structures, and development of products has an inverse and significant relationship with tax evasion of commercial companies, and the development of e-commerce infrastructure, modification and development of structures, and development of products simultaneously account for 0.21 of the variance of tax evasion of commercial companies. and the development of e-commerce infrastructure and the reform and development of tax structures are, respectively, the best predictors of tax evasion of commercial companies. The challenges facing electronic commerce taxation in the Islamic Republic of Iran were investigated in [38]. Based on the results, the challenges of provincial taxation of e-commerce in Iran were calculated in three dimensions: policy making, laws and regulations, and executive processes and in 20 components. The level of taxpayer's satisfaction with the implementation of the comprehensive tax plan in line with the government's policy of developing electronic services was assessed in [39]. Based on the results, the level of taxpayers' satisfaction with the implementation of the comprehensive tax plan in line with the government's policy of developing electronic services in the Tax Affairs Organization of South Tehran is at a high level. The tax capacity of electronic commerce (internet) (case study of Lorestan province) was estimated in [7]. The results showed that e-commerce has a small impact on wealth tax and the biggest impact on sales tax. In the short term, e-commerce exemption has a small reduction in tax revenues, but in the long term, it involves a lot of costs. The development of e-commerce requires a suitable legal framework to ensure companies and individuals have adequate protection during financial transactions. Electronic taxes impact business improvement indicators in the tax sector.

The review of previous studies shows that few studies have investigated the tax capacity of e-commerce, and in this research, the identification of components and qualitative research methods to

provide the model of the tax capacity of e-commerce have not been done. Therefore, the current research has an innovation among previous research.

3. Materials and Methods

This study is a mixed research (qualitative and quantitative) that is practical in terms of its purpose and descriptive-exploratory in terms of data collection with an inductive approach. In the qualitative part, the method for conducting this research is based on Foundation's data method. The Grounded Theory method is a general, inductive and interpretative research method that was created in 1967 by Glasser & Strauss. The main function of foundation data is the emergence of theories [40]. However, the fundamental theory is related to previous patterns of research methods and did not arise suddenly and without introduction. Data-driven theory (fundamental theory) is an inductive and exploratory research method that allows researchers in various subject areas to develop theories and propositions instead of relying on existing and pre-formulated theories [41].

In this section, the three basic stages of the foundation data method include Open Coding, Axial Coding, and Selective Coding. As recommended in [42], coding be done through microanalysis. In this type of analysis, the data is analyzed word by word and the meanings found in words or open groups of words are coded. This method has two drawbacks: the first is that it takes time and the second is that it sometimes leads to ambiguity and confusion. In addition, sometimes dividing the data into words leads to the loss of the analytical ego and there is a kind of doubt about what should be searched in the text [43]. Another method suggested in [44] is the coding of key points. In this method, instead of coding individual words, key points are identified and coded. Therefore, in this research, coding was performed based on the method of [44] in the form of six main networks of the foundation data method, namely the central phenomenon, causal conditions, contextual conditions, intervening conditions, strategies, and consequences.

The statistical population in the qualitative section comprises experts and specialists in the field of taxation and e-commerce, including university professors and experimental experts. The sampling method is judgmental, and the sample volume continues until theoretical saturation. Thus, semi-structured interviews were used as a data collection tool in the qualitative section. The interview consists of two parts: the first part is the demographic information of the experts and the second part is the main questions of the interview, which consists of 6 questions. After conducting interviews, we reached theoretical saturation with the number of 15 interviews.

In the quantitative part, statistical data related to the components identified in the qualitative part were collected seasonally in the period of 2015-2020. The

statistical data of the variables were collected from the Central Bank, World Bank, and Iran Statistics Center. Then, by structural equation modeling with partial least squares (PLS) approach and Smart PLS software, the qualitative part model was tested and finally the tax capacity of e-commerce was estimated.

First, the personal characteristics of the interviewees, including age, gender, education, experience, and job positions, are presented in Table 1. According to the results, among the 15 interviewees, 2 were women and 13 were men. In terms of work experience, except for 2 people, other experts had work experience of more than 7 years. In terms of education, all of them have doctorate education and in terms of age, except for 2 people, other experts are more than 35 years old. Also, in terms of job position, 6 people are university professors, 6 people are financial managers, and 3 people are economic activists. The following three stages of open coding, axial coding, and selective coding are described.

Table 1 Individual characteristics of the interviewees

Job Position	Work History	Education	Gender	Age
Financial Manager	15	PhD	Man	41
University Professor	10	PhD	Man	40
University Professor	32	PhD	Man	67
Financial Manager	25	PhD	Man	50
Economic Activist	15	PhD	Man	38
University Professor	7	PhD	Man	35
Financial Manager	7	PhD	Man	36
Financial Manager	15	PhD	Man	46
University Professor	10	PhD	Woman	45
Financial Manager	15	PhD	Man	36
Financial Manager	23	PhD	Man	45
University Professor	2	PhD	Woman	33
Economic Activist	10	PhD	Man	42
Economic Activist	7	PhD	Man	36
University Professor	2	PhD	Man	33

3.1. Open Coding

In this study, first, the content of all interviews was implemented and written, and then their open coding was done using the key points coding method. Open coding was done in three stages: the first stage, second and third stages. In each stage, the number of data decreases compared to the previous stage [45]. Thus, in total, after merging similar codes, 33 codes (concepts) were extracted from the open coding of the third stage.

3.2. Axial Coding

Axial coding is the second stage of analysis in foundational data methodology. The purpose of this stage is to establish the relationship between the classes produced in the open coding stage [46]. This action is based on the paradigm model and helps the theoretician to carry out the theory creation process easily. In axial coding, the codes generated in the previous step are linked to each other by creating communication networks between these codes. This process is obtained by analyzing the data obtained from open coding. Therefore, the purpose of axial coding is to sort the relationship between each concept [47].

When establishing connections in the network, it is necessary to check how these categories are related to each other. This stage was done by forming networks to create connections between concepts, categories, and components. According to the obtained results, finally, six main networks and 33 sub-components for the tax capacity of e-commerce were identified through interview analysis. Therefore, by axial coding, six main networks were identified as follows: central phenomenon (2 components), causal conditions (6 components), contextual conditions (8 components), intervening conditions (10 components), strategies (4 components), and consequences (3 components).

The results of axial coding are presented in Table 2.

Table 2 Axial coding results

Network	Component
Central phenomenon	The nominal value of the volume of electronic transactions
	The real value of the volume of electronic transactions
Causal conditions	Internet penetration in the country
	Mobile phone penetration
	Landline phone penetration
	The penetration rate of social networks
	Population density
Background conditions	Demand for goods and services
	Per capita household income
	Household expenses
	Tax on the income of individuals
	Income tax of legal entities
	Sales and consumption tax
	GDP
	Government expenses
	Government revenue
	Agriculture contribution to GDP
Intervening conditions	The share of the mining sector in the GDP
	Industry share of GDP
	The share of services in GDP
	Customs tariffs
	Bank interest rate
	Exchange rate
	Inflation
	Producer price index
	Capital market circulation
	Importation
Strategies	Export
	The distribution of income
	Consumer welfare
Consequences	The share of online shopping transactions with total banking transactions
	Online retail share of total retail sales
	The average number of electronic transactions

3.3. Selective Coding

Selective coding is the process of integrating and improving categories. The point that should be considered at this stage of the research is that if the purpose of the research is theory building, the findings should be mostly related concepts and not just a list of topics. Noteworthy, there is always more than one way to represent relationships. To achieve the desired

integrity, it is necessary for the researcher to adjust the main line of the subject and to describe the main line of the story with commitment to it. In selective coding, the researcher discovers principle and regularly associates a main category with other categories [48]. The main category should have the following characteristics: first, it should be obtained by the codes that are more central in the axial coding stage; second, it should show the highest frequency in the coding process. Third, all communication with categories should be done spontaneously [49]. The results of selective coding (qualitative research model) are in accordance with Figure 1. It should be noted that the general form of the model is based on 6 main networks, in accordance with the data model of the Foundation in [50].

3.4. Validation of Qualitative Data

The validation of data in the grounded method process is done in three ways [43]; these methods were used in this study. These three methods are

1. *Increasing the transparency of the research process*: Validation is achieved by increasing the transparency of the research process by distributing the steps and steps taken and the techniques and tools used in the parts where the information was collected in great detail. Considering the transparency of the information obtained in the three stages of open coding, central coding, and selective coding, therefore, the validity of the research data is confirmed by the method of transparency of the research process.

2. *Presentation of findings to the participants*: One of the principles of qualitative methods and specifically the grounded theory method is its participation-oriented nature. In this research, the researcher did not make any effort to direct the results in a specific direction, and all the results were the result of the answers of the interviewees. To validate the foundation data method, the research findings were provided to the interviewees, and all the interviewees approved the research findings.

3. *Continuous comparison of findings with raw data*: In each stage of higher level coding, the obtained data were compared with the data of the first stage of interview and recoding to confirm the validity of the higher stage coding data.

3.4.1. Findings of the Quantitative Section

In this section, first, statistical data related to the variables identified in the study period were collected. After collecting the data, descriptive statistics and the normality of the data distribution were checked by Eview' software according to Table 3. Based on the results, the average of each variable shows the centrality and center of gravity of the data. Also, the standard deviation is an indicator to show the dispersion of data. Also, in all the data, the probability

level of normality statistic is more than 0.05; therefore, the null hypothesis of normality of data distribution is accepted. Since the number of observations is equal to 20 and is less than the value of 200. Therefore, structural equation modeling with partial least squares (PLS) approach and Smart PLS software are used for modeling.

Table 3 Results of descriptive statistics and normality test

Prob.	Std.	Average	Variable
0.86	37.071	405.60	The nominal value of the volume of electronic transactions
0.50	387.52	873.8	The real value of the volume of electronic transactions
0.852	12.002	69.870	Internet penetration in the country
0.694	23.057	122.38	Mobile phone penetration
0.719	1.958	36.826	The landline phone penetration
0.882	9.121	51.80	The penetration rate of social networks
0.699	0.037	1.354	population density
0.851	347851.4	6424006	Demand for goods and services
0.745	4.134	52.14	Per capita household income
0.937	0.530	13.748	Household expenses
0.730	3.441	62.856	Tax on the income of individuals
0.730	3.441	37.143	Income tax of legal entities
0.602	7.13E+12	2.46E+13	Sales and consumption tax
0.773	7.98E+15	2.10E+16	GDP
0.747	8.28E+14	2.57E+15	government expenses
0.778	362494.6	1415271	Government revenue
0.685	1.559	10.812	Agriculture contribution to GDP
0.779	0.143	0.495	The share of the mining sector in the GDP
0.780	2.229	33.381	Industry share of GDP
0.870	1.351	55.189	The share of services in GDP
0.389	5.366	9887034	Customs tariffs
0.389	2.236	16.00	Bank interest rate
0.829	82375.86	120730	exchange rate
0.717	15.462	21.922	Inflation
0.923	26.055	214.22	Producer price index
0.640	4615147	12923624	Capital market circulation
0.821	2942429	6005880	Importation
0.810	2043268	5455719	Export
0.948	0.0033	0.399	Distribution of income
0.641	1.923	118.2	Consumer welfare
0.740	1.673	17.6	The share of online shopping transactions with total banking transactions
0.804	2.863	10.2	Online retail share of total retail sales
0.404	100.679	105.6	The average number of electronic transactions

After collecting the data, the quality of the model was checked by the measurement model. Then, the structural equation model with the partial least squares (PLS) approach was performed to test the qualitative model presented in Figure 1 and estimate the tax capacity of e-commerce.

3.4.2. Checking the Measurement Model

To check the quality of model fit, several indices were calculated. In the following, these indices were calculated for each of the hidden variables (6 main data networks of the foundation) and displayed in Table 4. Cronbach's alpha and Dillon-Goldstein's ρ measure indicate the reliability of statistical data. Since these values are higher than 0.7, there is acceptable reliability in the data. Also, considering that CR is higher than 0.7 and AVE is higher than 0.5, convergent validity is also in the data.

Table 4 Checking the quality of fit

AVE	CR	Dillon-Goldstein's ρ	Cronbach's alpha	Hidden variables
0.502	0.787	0.822	0.731	Central phenomenon
0.785	0.879	0.893	0.743	Causal conditions
0.657	0.851	0.729	0.735	Background conditions
0.741	0.850	0.721	0.704	Intervening conditions
0.577	0.711	0.920	0.725	Strategies
0.565	0.712	0.802	0.703	Consequences

In the next step, the diagnostic validity of hidden variables is obtained. For this purpose, first the correlation values between hidden variables were obtained. These values are then copied into the Excel file and the square root is taken from the AVE values in Table 4. These root values have replaced the main diameter of the correlation matrix or values of 1. According to [51], the obtained acceptable roots should be higher than the correlation values of one construct with other constructs. The values are presented in Table 5. For the existence of diagnostic validity of hidden variables, the obtained values should be greater than the correlation of one construct with other constructs in the main diameter replaced. As can be seen, this condition is present in Table 5; therefore, the diagnostic validity of hidden variables is confirmed. Therefore, the models are evaluated as appropriate in terms of the fit indices.

Table 5 Checking the diagnostic validity of hidden variables

Consequences	Strategies	Intervening conditions	Background conditions	Causal conditions	Central phenomenon	Hidden variable
					0.708	Central phenomenon
				0.886	0.402	Causal conditions
			0.810	0.333	0.163	Background conditions
		0.860	0.478	0.120	0.307	Intervening conditions
	0.759	0.198	0.409	0.166	0.380	Strategies
0.751	0.412	0.141	0.476	0.314	0.324	Consequences

Continuation of Table 7

2.287	0.764	Sales and consumption tax	
-	-	GDP	
2.287	0.931	Government expenses	
2.161	0.932	Government revenue	
2.016	0.482	Agriculture Contribution' to GDP	Intervening conditions
2.038	0.642	The share of the mining sector in the GDP	
2.216	0.348	Industry' share of GDP	
2.428	0.378	The share of services in GDP	
-	-	Customs tariffs	
-	-	Bank interest rate	
2.602	0.349	exchange rate	
-	-	Inflation	
-	-	Producer price index	
2.195	0.696	Capital market circulation	
-	-	Importation	Strategies
2.292	0.706	Export	
4.641	0.856	The distribution of income	
4.302	0.860	Consumer welfare	
2.706	0.872	The share of online shopping transactions with total banking transactions	Consequences
-	-	Online retail share of total retail sales	
2.398	0.849	The average number of electronic transactions	

4. Results and Discussion

Today, electronic commerce plays a significant role in world trade and is growing worldwide. Also, the tax policies of countries have failed after the development of e-commerce. Concepts such as permanent establishment, points of sale, and product and income classification have remained ineffective in the tax process. E-commerce allows companies to earn their income without physical presence. Due to this feature of e-commerce, tax authorities rarely receive information about the tax that should be collected, and as a result, there is a tax reduction. For this purpose, the current research was conducted with the aim of providing a model for estimating the tax capacity of e-commerce. This study was conducted in two parts: qualitative and quantitative. In the qualitative part, the dimensions and components of the tax capacity of e-commerce were identified by the grounded theory method (foundation data) and were categorized into six main networks of the foundation data method. In the quantitative part, the identified variables were modeled by structural equations, and thus, the tax capacity of e-commerce was obtained for each variable. In the following section, the results of each section are presented separately.

Based on the results of the qualitative section, 33 identified components were categorized into 6 networks of the foundation data method. The central phenomenon that shows the centrality and the main axis of the research include the nominal value of the

volume of electronic transactions and the real value of the volume of electronic transactions. The causal conditions for reaching the tax capacity of e-commerce in Iran include the country's internet penetration rate, cell phone penetration rate, landline phone penetration rate, social network penetration rate, population density, and demand for goods and services. Background conditions were defined by the components of per capita household income, household expenses, income tax of natural persons, income tax of legal persons, consumption and sales tax, government expenditure, government income, and gross domestic product. Exchange rate, inflation rate, customs tariffs, bank interest rate, share of services in GDP, share of agriculture in GDP, share of mining sector in GDP, share of industry in GDP, producer price index, and circulation. The capital market was defined as an intervening condition. The strategies in the current research were defined by the components of import, export, income distribution, and consumer welfare. Also, the results include the average amount of electronic transactions, the share of online retail sales in total retail sales, and the share of online shopping transactions in total bank transactions.

In the quantitative part, the results showed that the variables of the nominal value of the volume of electronic transactions from the central phenomenon; the penetration coefficient of social networks from causal conditions; government income from background conditions; capital market circulation from interfering conditions; the welfare of consumers from the strategies and the contribution of internet shopping transactions to the total banking transactions have the greatest impact on increasing the tax capacity of electronic commerce. Also, based on the comparison of factor loads in all networks, the nominal value variables of the volume of electronic transactions, the penetration rate of social networks, income tax of natural persons, government expenditures, and government income have the greatest impact on increasing the tax capacity of electronic commerce. Therefore, it can be said that if transactions are done electronically and social networks are available to the people of the society, the tax capacity of e-commerce will increase a lot. Also, the tax on the income of natural persons should be considered by the government and the public sector, because this variable also plays a major role in increasing the tax capacity of e-commerce. Due to the determination of the public budget, the government's incomes and expenditures play a major role in the tax capacity of e-commerce.

This research is consistent with [38] due to the importance of political factors such as the exchange rate.

5. Conclusions

Based on the obtained results, since the nominal value of the volume of electronic transactions has a

great impact on the tax capacity of electronic commerce. To increase the tax capacity of e-commerce, it is recommended that banks take basic measures to make electronic transactions easier so that ordinary people can easily use e-commerce services. Because the penetration rate of social networks has a great impact on the tax capacity of e-commerce, it is recommended to make social networks more easily accessible to users. Also, the creation of payment portals for different people in social networks can also contribute to the tax capacity of e-commerce. Considering that the income tax of natural persons has an effective role in increasing the tax capacity of e-commerce, it is recommended that the country's tax system be planned with more precision and control and be modeled after the programs of successful countries in the field of taxes. Also, since the government's income and expenses play a major role in the tax capacity of e-commerce, it is recommended to plan the country's general budget with more precision and control and in more time so that there is enough opportunity for budgeting.

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