



Studying and Specifying of the Usage Impact of the Electronic Commerce Tools

Case Study: Operation of the Social Security Organization of Bushehr Province

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ABSTRACT

The current research is designed and performed by studying and specifying of the usage impact of the e-commerce tools on the operation of the social security organization of Bushehr province.

The research is a kind of correlation in terms of the functional purpose and the descriptive nature, and the data collecting method is on the library and the field. The research statistical population including all the social security organization staff of Bushehr province is 486 people that 215 people were chosen as the sample volume by using the simple random sampling method and Morgan table. The Peterson standard questionnaire (1990) was used for the performance variable of the tool and the researcher-made questionnaire was used for collecting data. The questionnaire stability was confirmed by using Cronbach's alpha is equal to 89%. The data analysis method was used by using the deduction and descriptive statistics and being normal the data distribution from the Smirnov-Koolmocrof test and the tension and skew coefficient and the used statistics methods in this research was with SPSS and Lasrel. The results showed that two tools (technologies and telecommunications and communication tools, e-commerce supporter tools) were considered for electronic commerce.

The effect of the e-commerce tools on the social security organization operation of Bushehr province was positive and meaningful based on the confirmatory factor analysis. The telecommunications and communication tools included the telephone and telegraph and post networks, the surplus value networks and the data services, the integral communication lines of the digital services, the communication standard and the internet network and the e-commerce supporter tools were also considered the data electronic exchange, the internet tools, the file transfer, the design and the production by helping the computer, the bulletin, and conference.

Also, the presented model had the reasonable fitting.

KEY WORDS: electronic commerce, technologies and telecommunications and communication tools, ecommerce supporter tools, operation, software, laser

INTRODUCTION

The internet has set the modern area to publish, exchange, present the human information that is a deep revolution in many ways, the revolution means that gradually changes the society technology, politics, cultural, social, economic departments.

In the future not too far, major scientific exchanges, education, economics, tourism and many social activities will exclusively be performed.

The e-commerce is a technology that let the medium and small firms compete with their great peers. Indeed, the researches show that the remarkable and important benefits will obtain by the medium and small firms in using the e-commerce in their organizations. The benefits include the decrease of the costs, the increase of the sale and the access ability to the world markets[9].

The organizations are trying throughout the world in facing the world sever competition and exploring the knowledge to reserve and improve their competitive situation by enhancing the operation and confirmation ability from their clear and unclear assets. The ability of the organizations to reserve the competitive benefit depend increasingly on their situations in the management of the unclear assets such as the human skills, the knowledge base and or the strong points in presenting services which their competitors can't provide them.

Durability is possible in the unreliable, dynamic and complex settings by getting the superior organizational operation that it is necessary to attend to the effect factors on the organizational operation. In this line, the strategic planning and the organizational entrepreneur are factors which help the organizational operation improve[8].

All the research will be studied in this chapter.

As a result, first the research problem will be stated and then the research issue importance will be described. In following, the research purposes and theories are also stated and finally the research components and variables are defined as the operational and theoretical concepts.

LITERATURE REVIEW

There are the research, recognition and criticism about the knowledge related to the research for the literature which if is correctly performed, it helps the problem and connects the research findings to the previous researches. Also, we can know the methods used in the researches including the measurement tool. The sampling method and realize their weak and power and the researchers can choose the appropriate research plan for the desired subject.

In this chapter, it is tried to study the appropriate bases and concepts to identify the subject until it is used to compiled the used research plan.

Many definitions are presented about the e-commerce. In fact, there is a variety set of the concepts and definitions for the e-commerce which includes the subjects, the applications, and the diverse models. In many cases it is attempted to present the general definitions and in the other cases it is noted to the activity type, the communication, facilities and the used equipment, the organizational range of the activities and substructures.

The e-commerce is a set of the activities that are directly supported by the electronic communication (network)[27].

In a more accurate definition: The e-commerce means to perform the transaction through the network, or the market of the products and the service through the internet stores as the web [53].

They can include the retail and wholesale market of the physical and non-physical products such as the food products or the computer software and the customer service including the medical or legal advices and or the other commerce issues such as the exchanges of the goods to the goods and to initial the tenders and auctions [10].

RESEARCH METHOD

The research is functional with the purpose, descriptive with the method of the data collecting, and measurable. Therefore, since the research also introduced the using effect of the e-commerce tools on the social security organization operation of the Bushehr province. Its purpose was functional and the field method which the data analyzed as descriptive and analytic based on the technologies according statistical[10].

The computed stability table for each of the research questionnaire variables

	Telecommunications and connections tools	Supporter tools	Business operation
question number	15	18	10
Cronbach's alpha	0/89	0/92	0/94

FINDINGS

Descriptive statistic results of the research components

	Standard deviation	average
Telecommunications and connections	1/020	4/02
tools		
Supporter tools	3/78	1/082
Function	3/95	0/927

3-2-4- Study being normal the data

About the theory test of the quantitative variables such as regression and correlation test, the quantitative data dependency certain presumption is the normal distribution because the qualifications are normally distributed but when the statistic are analyzed, we should assure the normal distribution. The method of the skew study and the data tension and Smirnov-Koolmocrof test is used in this research to study being normal the data distribution[53].

1-3-2-4-Skew study and data tension

The skew means the deviation of a curve from the symmetry state which is three states:

- 1- Zero skew: The skew is zero in a state that the curve is symmetrical. In the symmetry distributions, the distance from first quarter to the mean is equal to the distance from third quarter to the mean. 2- Negative skew: In the negative skew state, the tension is bigger than the mean and the mean is bigger than the average (it expresses that many people took the high grades and so the test was been easy).
- 3- Positive skew: In the positive skew too, the average is bigger than the mean and the mean is bigger than the tension (means the test was been hard). In the other words, the skew or the slope is developed when the curve of the observations is asymmetric. If the curve right of the observations is longer than its left, the observations have the positive skew or deviate to the right. In this state, the observations smaller than the exponent (tension) have a

little numeral variety but they have the big plenty and the observations bigger than the exponent have among numeral variety but their plenty is small. If the curve left of the observations is longer than its right, the observations have the negative skew or deviate to the left. This state is the reverse of the previous state. That is, the observations less than the mode have a lot of variety with the little plenty and the observations bigger than the mode have a little variety with the great plenty .

Tension: when the tension is equal zero, the distribution of the grades is normal, that is, in the distribution form which is high and up, the grades are close to each other or equal and the variation is little. While the tension is positive, the distribution curve node of the grades will be peaked. In the flat distribution form which has a negative tension, the grades are far from together and the variation is high. The cant or tension extent of the plenty curve than the standard normal curve is named its node. In the other words, the tension is developed when the dispersion of the observations is greater than the dispersion of the normal observations that in this case, the curve of the observations will be wider than the normal curve and its crown will also be lower than the normal curve crown. On the other hand, if the dispersion of the observations is lower than the dispersion of the normal observations, the curve of the observations will be more contracted than the normal curve and its crow will also be higher than the normal curve crown. The first state is named the positive tension and the second one, the negative tension. In general, when the data tension and skew are in the interval, it can be said that the data are normal.

In the current research, all questions were studied in terms of the tension and the skew that the results of the data tension and skew is in the following table:

Table 1. Skew and tension of the questions

Supporter	tools		-	peration	l	telec	ommunicati	ons	
••					connection	s tools			
Question Number	skew	tension	question number	skew	tension	question number	skew	tension	
1	0/34 -4	-0/497	1	0/715	-1/007	1	-0/424	-0/397	
2	0/48 -4	-1/234	2	0/238	-0/440	2	-0/384	-1/004	
3	-0/16 -3	-0/764	3	0/648	-1/014	3	-0/163	-0/864	
4	0/59	-0/978	4	0/480	-0/445	4	-0/591	-0/978	
5	0/35	-0/599	5	0/542	-1/257	5	-0/305	-0/619	
6	0/50 -9	-1/174	6	0/715	-1/007	6	-0/909	-1/774	
7	0/53	-1/425	7	0/238	-0/440	7	-0/539	-1/320	
8	0/37	-0/497	8	0/648	-1/014	8	-0/374	-0/217	
9	0/48	-1/234	9	0/480	-0/445	9	-0/301	-1/336	
10	0/16	-0/764	10	0/542	-1/257	10	-0/163	-0/851	
11	0/59 -1	0/978				11	-0/591	-0/978	
12	0/35	0/599	1			12	-0/068	-0/387	
13	0/50 -9	-1/174				13	-0/753	-0/952	
14	0/53 -9	-1/425				14	-0/143	-0/886	
15	0/42	-0/397				15	-0/970	-0/612	
16	0/38	-1/004							
17	0/16	-0/864							
18	-3 0/45 -5	-0/610							

The results of the above table shows any question isn't faced the tension more than 2 that it indicates the proper asymmetry of the data distribution and being normal the distribution based on the results of the data tension and skew.

2-3-2-4-Smirnov-Koolmocrof (K-S) test

After studying being normal the tension and or the skew of the data distribution, the turn is Smirnov-Koolmocrof test until it will get more validity about being normal the data in these test, to study being normal the data, the null hypothesis based on not being normal the data, is denied. On the other words, the data distribution will be normal[34]. To test the normality, the statistical hypotheses are adapted as following:

 H_0 : The distribution of the research data is normal

 H_1 : The distribution of the research data isn't normal.

The below table shows K-S test about the research dimensions:

Table 2. K-S test to study being normal

Components and variables	Meaningful level of K-S test
Telecommunications and connections tools	0/069
Supporter tools	0/060
Operation	0/058

According to the above table, because of the meaningful level more than 0/05, we can express in the validity level that the hypothesis based on being normal the data is accepted.

3-4-Deductive statistic

The data deductive analysis method of each research is chosen based on the structure of the questions, hypotheses, the data nature and the research purposes. Since the research data volume is high in the measureable and field researches, hence the statistical various software are used to analyze the research data after collecting. In this research, the collected data namely Laserl are also analyzed after collecting the data by using the available software and related to the research.

3-4-1-Structural equation modeling (SEM)

The structural equation modeling (SEM) is a multi-variable technique that stated as a combination of the factor analysis and path analysis.

We can study a series of the dependency connections between the utter variables (independent) and the inner variables (dependent by using this statistical technique)[4].

In most general forms, SEM includes two parts:

The measuring model and the structural equation model.

The measuring model determines the rules governing on how measure the hidden variables (factors) in terms of the observed variables and states the measuring features of the observed variables. It means that the measuring models deal with the relationship between the hidden and observed variables. Such model determines the hypotheses about the relationship among a set of the observed variables, like the hidden variables (factors) and questionnaire questions (items) that they are designed to measure it[60].

The structural equation model is a flexible and comprehensive model which determines the relationship pattern between the dependent and independent variables (that can be observed or hidden).

The measuring model has introduced a test to stabilize the observed variables which used to measure the hidden variables. If the measuring model has the weak fitting to the data, it shows that at least some observed indicative variables aren't fix (reliable). The indicative variables are the much observed variables by which the hidden factors are defined.

- Fitting merit standards

There are some fitting measures to determine the general fitting merit of the given model.

The fitting merit measures are classified to three kinds: 1) Absolute fitting indices, 2) comparative fitting indices, 3) economical fitting indices.

- Absolute fitting indices
- . Chi Square-Chi du: However it is smaller, it's better so far as the zero value shows the complete fitting.
- . Chi Square normal or relative: The values between 2 to 3 often are acceptable for this index. Of course, the values between 1 to 5 can also be acceptable [41].
- . Average square root of the rest squares: It is used more to compare two different models with the same data and however it is smaller, the better.
- . Fitting merit indices and reformed are extremely affected by the sample volume and some researchers have emphasized they aren't used. If there is a tendency to use more than 90, it shows a very good fitting and less than 90 states the model needs to reform.
- Comparative fitting indices

Five comparative fitting indices are reported in Laserl that their values are between zeros to one and however their values are closer to one, the model is more acceptable. The values higher than 90 are explained as the acceptable mode.

. Relative fitting index

- . Increasing fitting index
- . Tocker Lois fitting index
- . Comparative fitting index

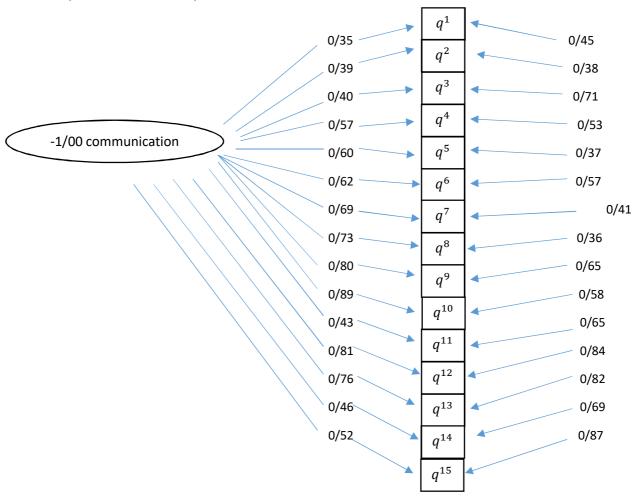
Economical fitting index

Each parameter which is free to evaluate leads to decrease one freedom degree for the compiled model. Consequently, the decrease of one freedom degree can be considered as the cost and the decrease of the Chi skoer value and also the improvement of the comparative fitting indices as the reward. The economical fitting indices are accounted based on it.

The exact value isn't offered to accept these indices but the values higher than 50 can be acceptable.

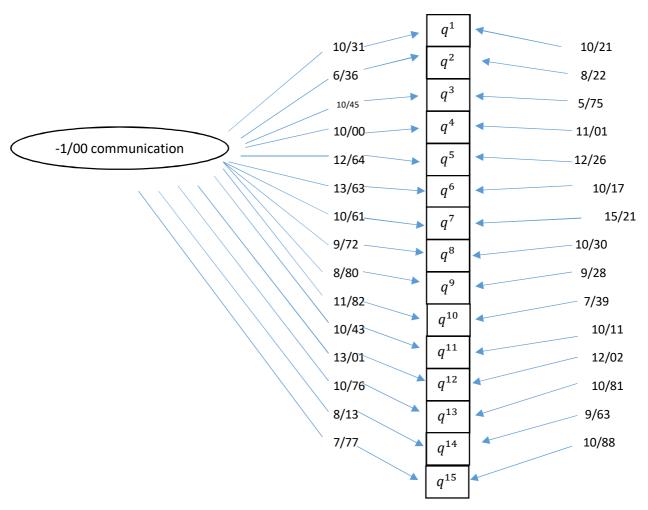
- . Economy ratio index
- . Economical normalized fitting index
- . Economical comparative fitting index

First, we study the measuring model which indicates the variable relationship with its questions and in fact it is the very confirmed factor analysis:



Chi-square = 420/34, df = 90, P-volume = 0/00000, RMSEA

Figure 1: The measuring model of the telecommunications and communications tools in the state of the standard coefficients



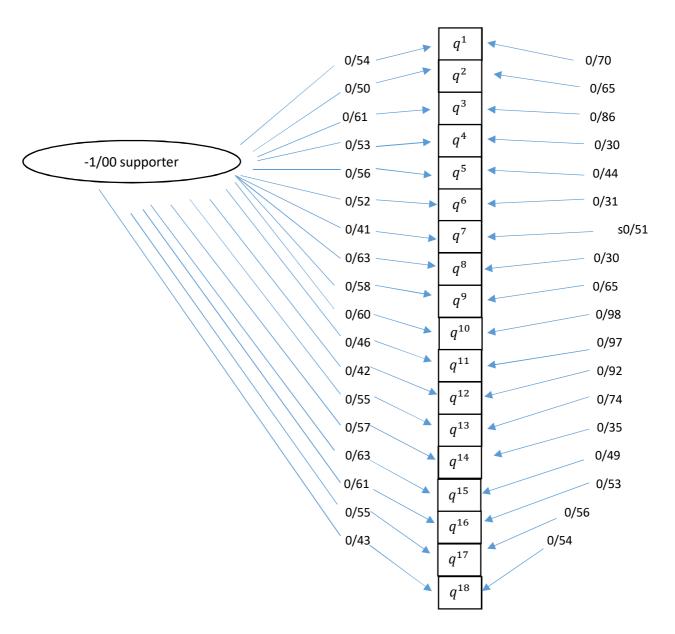
Chi-square=420/34, df=90, P-volume=0/00000, RMSEM=0/063

Figure 2-4: The measuring model of the telecommunications and communications tools in the meaningful state

In the estimation state is represented the standard of the factor loads, however the factor load is bigger and closer to one, it means the observed variable (question) can better specified the hidden variable.

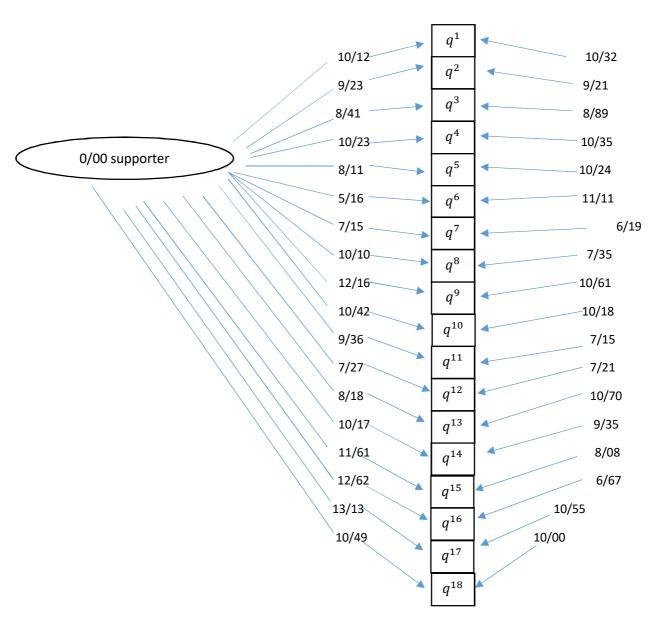
If the factor load is less than 0/3, a weak relationship can be considered and it is excluded. The factor load between 0/3 and 0/6 is acceptable and if it is more than 0/6, it is very desirable. As shown in figure 1-4, the factor load of any questions isn't less than 0/3.

The t volume should be more than 1.96 in the meaningful state until the relationship between every question and the desired variable. Figure 2-4 can be an appropriate determinative for the desired variable, however that t value is more than 1/96 for all questions and the relationship between this question and the desired variable is also meaningful.



Chi-square = 652/65, df= 135, P-volume=0/00000, RMSEA=0/078

Figure 3-4: The measuring model of the supporter tools in the state of the standard coefficients



Chi-square=652/65, df=135, P-volume=0/00000, RMSEA=0/078

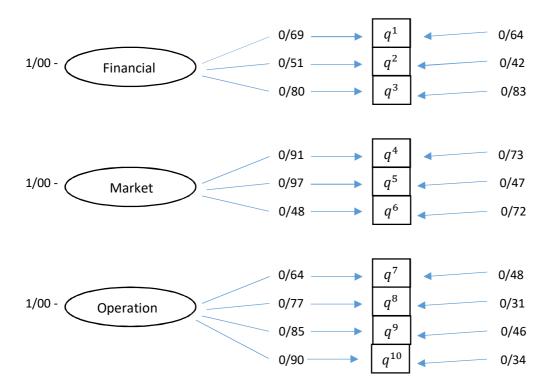
Figure 4-4: The measuring model of the supporter tools in the meaningful state

The standard of the factor loads is shown in the estimation state, however the factor load is bigger and close to one, it means, the observed variable (question) can better specify the hidden variable.

If the factor load is 0/13, the relationship is weak and disregarded. The factor load between 0/3 and 0/6 is acceptable and if it is more than 0/6, it is more desirable. As shown in figure 3-4, the factor load of any questions isn't less than 0/3.

The t value should be more than 1/96 in the meaningful state until the relationship between every question and the desired variable is meaningful.

In figure 4-4, however the t value is bigger than 1/96 for all questions and the relationship between this question and the desired variable is also meaningful, it can be the proper determinative for the desired variable.



Chi-square=104/75, df=32, P-value=0/00000, RMSEA=0/039

Figure 5-4: The measuring model of the operation in the state of the standard coefficients

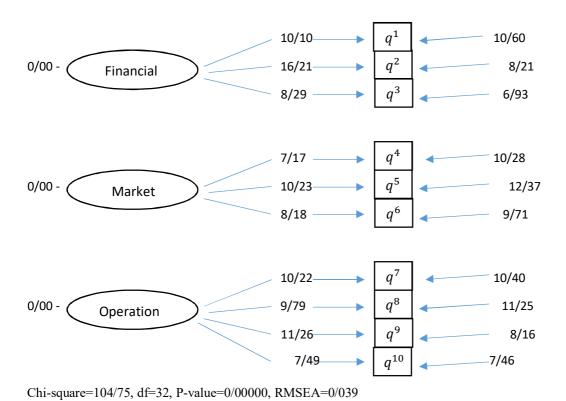


Figure 6-4: The measuring model of the operation in the meaningful state

The standard of the factor loads is shown in the estimation state, however the factor load is more and close to one, it means, the observed variable (question) can better specify the hidden variable.

If the factor load is less than 0/3, the relationship is considered weak and disregarded. The factor load between 0/3 and 0/6 is acceptable and if it is more than 0/6, it is more desirable. As shown in figure 4-5, the factor load of any questions isn't less than 0/3.

The t value should be more than 1/96 in the meaningful state until the relationship between every question and the desired variable is meaningful. In figure 6-4, however the t value is more than 1.96 for all questions and the relationship between this question and the desired variable is also meaningful, it can be the proper determinative for the desired variable.

4-3-2- Analyzing the data by the modeling model of the structural equation

The multi-variable analysis is one of the most powerful and appropriate of the analysis methods in the behavior science researches, because the nature of the subjects is multi-variable and we can't solve them with the two-variable method (which each load is only considered one independent variable with one dependent variable). Therefore, the patterning method of the structural equations is used in this research by using the software LISREL 8/8 to confirm or reject the hypotheses. It is necessary the research conceptual model is reminded, before presenting the results obtained from the test of the research hypotheses:

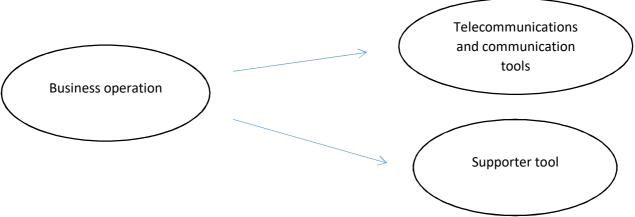


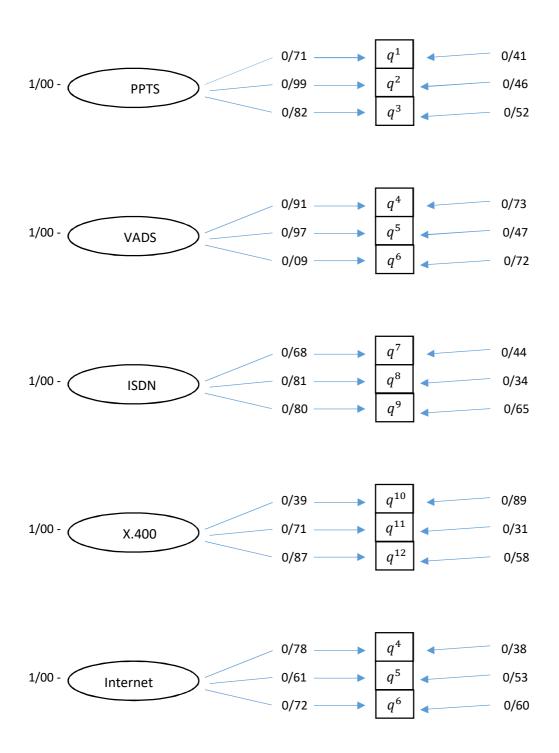
Figure 4-7: Research conceptual model

To study the effect of the e-commerce tools on the social security organization of Bushehr province and the model fitting extent, we use the structural method.

First sub questions: which are the e-commerce communications and telecommunications tools?

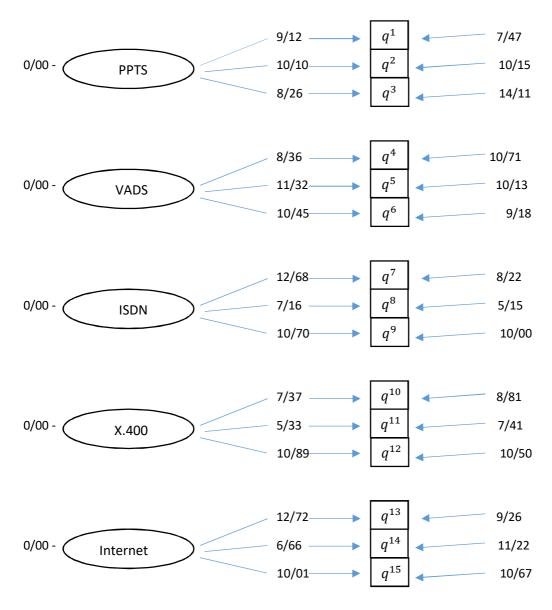
We have divided the components of the e-commerce communications and telecommunications tool to five groups due to the research literature review including : phone and post and telegraph networks (PPTS) , value added and data services networks (VADS) , integral communication lines of the digital services (ISDN) , communication standard (X.400) and internet[40] .

Laserl software is used to study the classification accuracy which we will study in the following:



Chi-square=337/14, df=80, P-value=0/00000, RMSEA=0/044

Figure 4-8: First sub hypothesis (communication and telecommunications tools) in the standard state



Chi-square=337/14, df=80, P-value=0/00000, RMSEA=0/044

Figure 4-9: first sub hypothesis (telecommunications and communication tools) in the meaningful state

The research questions are confirmed in the reliability level 99 percent based what are presented in the above figure.

- Measuring model fitting

The research model fitting is considerable in table 8:

Table 4-8: Factors fitting extent in the research structural model (first hypothesis)

	Abbreviation	extent	Acceptable fitting
	x^2/df	4/214	Less than 5
Economical indices	RMSEA	0/044	Less than 0/1
	PNFI	0/69	More than 0/5
	GFI	0/91	More than 0/8
Absolute indices	AGFI	0/85	
	NNFI	0/97	More than 0/9
	RFI	0/98	
Comparative indices	IFI	0/91	
	CFI	0/97	

Due to the model and the fitting table representing the model good fittings, we find out that our model is confirmed. Second sub questions: Which are the e-commerce supporter tools?

We have divided the components of the e-commerce supporter tools to 6 groups due to the research literature review including: Data electronic exchange (EDI), internet tools, file transfer, design and production by helping computer (CAM), bulletin and teleconference[60].

Lasrel software is used to study the classification accuracy that we will study in the following:

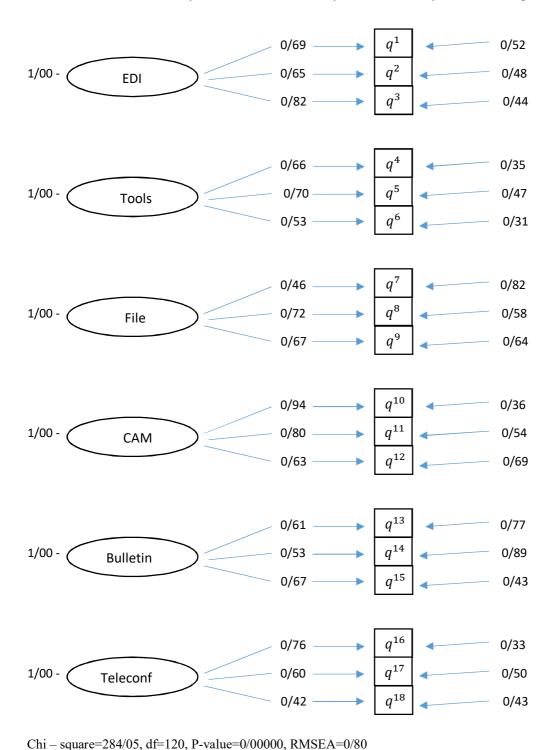
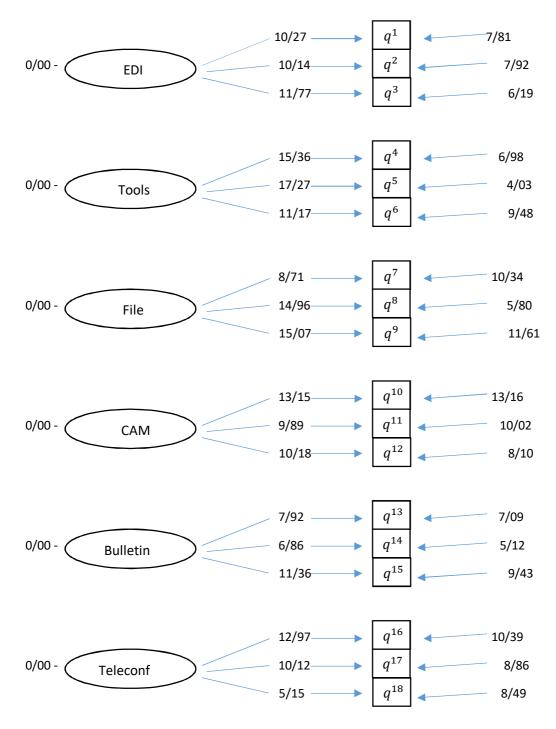


Figure 4-10: Second sub hypothesis (supporter tools) in the standard state



Chi-square=284/05, df=120, P-value=0/00000, RMSEA=0/080

Figure 4-11: Second sub hypothesis (supporter tools) in the meaningful state

The research questions are confirmed in the reliability level 99 percent based what presented in the above figure [53].

- Measuring model fittings

The research model fitting extent is noticeable in table 9:

Table 4-9: the fitting extent of the factors in the research structural model (Second hypothesis)

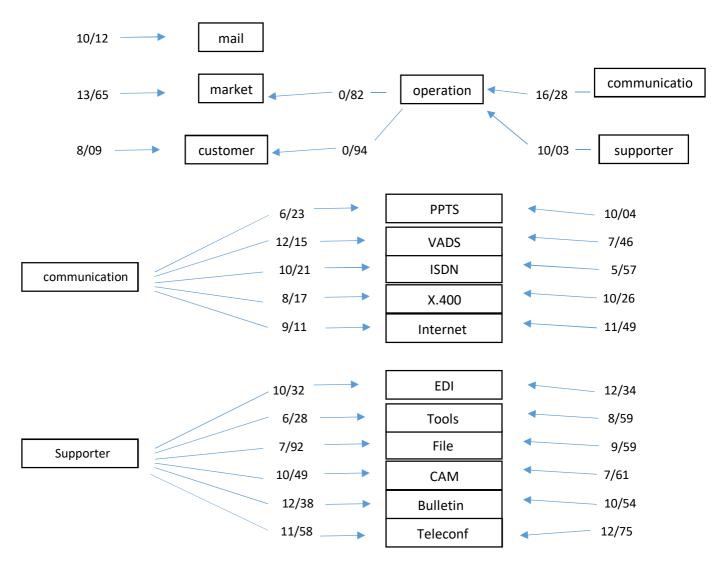
	abbreviation	extent	Acceptable fitting
	x^2/df	2/367	Less than 5
Economical indices	RMSEA	0/080	Less than 0/1
	PNFI	0/77	More than 0/5
	GFI	0/95	More than 0/8
Absolute indices	AGFI	0/81	
	NFI	0/93	
Comparative indices	NNFI	0/99	More than 0/9
	RFI	0/91	
	IFI	0/94	
	CFI	0/96	

Due to the model form and the fitting table representing the model good fittings, we find out that our model is confirmed.

Third sub question: How do the e-commerce telecommunications and communication tools affect the organization operation?

Fourth sub question: How do the e-commerce supporter tools affect the organization operation?

The Laserl software is also utilized to study the effect of the e-commerce supporter and telecommunications and communication tools on the organization operation that we will study in the following:



Chi-square=340/59, df=74, P-value=0/00000, RMSEA=0/093

Figure 4-12: Fourth and third sub hypothesis of the research in the standard state

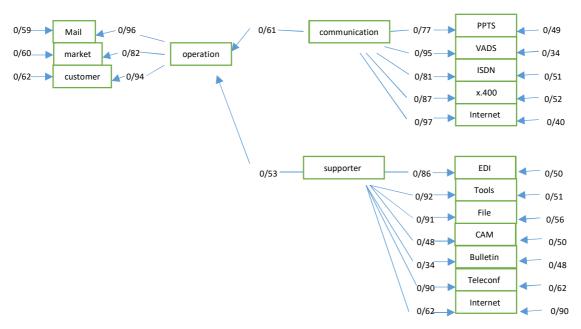


Figure 4-13: Fourth and third sub hypothesis of the project in the meaningful state

The research main question is confirmed in the reliability level 99 percent based what presented in the above figure.

- Structural model fittings

The research model fitting extent is noticeable in table 10:

Table 4-10: The fitting extent of the factors in the research structural model (Fourth an third hypothesis)

	(Fourth a	n tiin a nypotnesi	.5)
	abbreviation	Extent	Acceptable fitting
Economical indices	x^2/df	4/602	Less than 5
Economical indices	RMSEA	0/093	Less than 0/1
	PNFI	0/73	More than 0/5
	GFI	0/90	More than 0/8
Absolute indices	AGFI	0/87	
	NFI	0/95	
Comparative indices	NNFI	0/96	More than 0/9
	RFI	0/93	
	IFI	0/94	
	CFI	0/97	

Due to the model form and the fitting table representing the model good fittings, we find out that our model is confirmed.

DISCUSSION

The aim of this research is to present the coherent form of the informative analysis that is performed. In the section of the research, the researcher should report the research findings according to the data analysis and in addition, the suggestions are presented in order to implement the research results due to the obtained findings. Here, the conclusion is presented about the research findings and their interpretations and also presented the practical suggestions for the future researchers to improve the effect of the e-commerce tools and the organizational operation.

CONCLUSION

The researcher should present the results in the final of each investigative activity after the test of the hypotheses. The results obtained from the research questions and hypotheses are also bases which the suggestions are formed based on them. Therefore, one of the research critical and important parts which can practically be a way for changing the theories to the act for the success in the future, is the correct results and the proper and relevant suggestions. The results which are presented based on the clear analyzes, can resolve the present problems over a way that the research is designed in order to overcome and resolve them. All efforts which performed to accomplish an investigative activity, is in fact to access to the desired results and the suggestions for the research. Sometimes these problems, however they are apparently little and slight, have lost a lot of energy and cost and decreased the efficiency and impression and prevented the valuable and desired results gain.

In fact, by performing the research, we can predict the problems and provide the results to remove them and act properly until finally observe the efficiency and positive results in the organizations. In this chapter , first the summary of the research findings will present and then the suggestions are presented regarding to the research record and the results obtained from the yield data analysis and finally the restrictions which there are in this research , are also expressed .

The present research can be considered as the measureable descriptive research because it studies the effect of the e-commerce tools on the social security organization operation of Bushehr province. Moreover, it is quantitative for the collected data type, because of the using of the questionnaire.

The results also have completely explained in the fourth chapter, the research findings in the descriptive statistic part (features of the participants) showed that 23/8 percent of the participants are women and 76/2 percent of them are men that most respondents are between 31 and 40 years old, that is 36/87% and the least number about the examinants with the age over 60 years old is 6/81 percent. Also, the data showed that maximum work history is 35/01 percent and between 10 and 15 years old. Besides, most people having M.A degree are 65/4 percent.

Thus, it can be concluded from the above subjects that more observed sample volumes are men with 31 until 40 years old and having M.A degree.

5-5-Suggestions

5-5-1-Operational suggestions based on the research results

Due to the obtained results, the suggestions resulted from the research findings based on the effect of the telecommunications and communication tools and the e-commerce supporter tools on the operation in the social security organization of Bushehr will be presented as following:

The e-commerce telecommunications and communication tools affect the social security organization operation of Bushehr. Therefore, it is suggested that:

It is possible to change the site language due to the target market

It is possible to search in each page of website to present the site map to search easier to present information about the responsibility and salary of the insurer and insured

To present opinions of the other customers about the organization services

To present information about the reasons of the increase or decrease the price of the organization insurances

To study regularly the satisfaction of the customers about updating of the site information

The e-commerce supporter tools affect the social security organization of Bushehr.

Therefore it is suggested that:

Information about the products are exchanged between the customer and the producer in a short time interval by using the e-commerce.

To present information about the reasons of the increase and decrease the price of the organization services

To present information about the responsibility and salary of the insurer and insured after ordering the type of the insurance

To present the complete information such as the cost and the presentation condition of the services presented by the company to the customer

To present information about the cost of the insurance services and the discount conditions

To note to the social security organization for responding to the public security concerns of the insured

To use the security new procedures in the bed of the electronic exchanges

To study continuously the effect of the site color combination on increasing the sale of the insurance services To follow and study continuously the new procedures of the customer satisfaction

5-5-2-Suggestions to the future researchers

This research is performed in the other commercial companies and by the customer view so that it is determined what information and facilities should present in a website, to be able to meet the customer information needs

and increase the usability of the website for the customer so that the customers can be trusted towards the company and its abilities.

To study and compare the components and dimension of the e-commerce tools in the social security organization on the other cities and comparing them together

To use the multi-dimension making techniques, such as ANP, Topsis techniques in order to measure and rank the dimension of the e-commerce tools for the further researches, it is suggested to note the research limitations in the field of the sampling, statistical assumptions of the model structure and the measurement scale.

Also, the collected information of the companies aren't ended to two or more references but the reference combination is used. Generally, in these researches, the collected information is a period of time, so if the collected information is a time series, the better results will be obtained.

5-6-Research limitations

There are limitations and barriers before the researcher, in the performance process of every research. It isn't also exception. The present research limitations are as following:

The measurement tool limitation of the variables which the questionnaire is just used and the interview, the observation and the other measurement methods aren't used.

The disinclination and noncooperation of the servants to respond the questionnaire due to the lack of time which it is possible not to be real because of lots of work or the impatience of the respondents of the collected data. Deleting the intermediary factors in the relationship between the variables

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