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INVESTIGATING THE IMPACT OF BUSINESS VALUE ON PRODUCTIVITY AND TIMELY DELIVERY OF PRODUCTS TO CUSTOMERS

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ABSTRACT

Studying the electronic business system is essential in today's turbulent and complex world. The statistical population of this research includes all the employees of Iran Khodro Company, whose number is 400. In this research, it is random sampling. SPSS and AMOS software are used to analyze the obtained data. which is under exploratory research on the effect of e-business on timely delivery to customers in Iran Khodro Company. According to the obtained results, the value of the test statistic is 15.96 and greater than 1.96, the upper and lower limits of the mean are of the same sign and positive, and the significance level is equal to 0.000, which is less than 0.05. According to this evidence, it can be said that the null hypothesis is rejected and the research hypothesis is confirmed. The null hypothesis was defined as the lack of effect of business value on productivity and timely delivery of products to customers, and the research hypothesis was defined as the effect of business value on productivity and timely delivery of products to customers. In this test, the null hypothesis means no effect and is rejected and from the perspective of employees, the significant effect of business value on productivity and timely delivery of products to customers is confirmed. Also, according to the obtained results, the average number of comments is 3.59, which is higher than the hypothetical average of 3. This means that the employees have considered the relationship between these two variables to be high.

Keywords: *E-business, On-time delivery, Iran Khodro, Productivity.*

INTRODUCTION

This article studies the role of e-business influencing variables in timely delivery to customers. The results of this study should help users in making decisions in business activities as well as marketing for strategy and survival in a competitive environment. This thesis consists of five chapters: the five chapters of this thesis include: introduction, abstract of literature, method, analysis, presentation of findings, and summary and conclusion. In the first chapter, the introduction deals with the nature of this study. This chapter includes the background of the problem, the purpose of the study, information about the automotive industry in Iran, a statement of the problem, research questions, assumptions, and limitations, definitions of key terms, and a summary (Shima Tahmasabi Shahrivar, 2013)

In today's competitive world, companies and organizations can survive if they have chosen a more appropriate business model compared to their competitors. Having a business model and its continuous evaluation is one of the secrets of superiority in the competition.

Business and business methods are one of the most important areas that were quickly and severely affected by the use of new information and communication technologies and the Internet. Many of the traditional methods of earning money have changed and many new methods and values have also appeared. The business model is a method of doing business in such a way that the company can maintain itself and guarantee its survival, in other words, generate income.

The business model specifies how a company can make money and, for this purpose, specifies where this company is located in the value chain. To put it simply, the business model communicates between the inputs and outputs of an organization. The centrality of the business model shows its importance. Therefore, if we want to know how the inputs of an organization can be converted into appropriate outputs, or how the outputs of an organization can be used to control and influence the organization's inputs, we must acquire a model and design the work correctly and understood it correctly (Amirreza Mehraban et al., 2016).

Finnegan and Hayes (2005) summarized the theories of Timmers, Tapscott, and Kaplan and a combination of the criteria provided by these three experts, five criteria of economic control, value chain integration, functional integration, business innovation, and sourcing. expressed as effective factors in choosing an electronic business model. In his article, Ng (2005) also identified the effective factors in the selection of electronic business models, including the size of the organization, the culture of electronic business in the company's environment, and understanding and recognition of business models. Electronic, the amount of resources required by the company, the type of target market of the company, the nature of the products, and the strategies of different levels of the organization. Mohammadian (2005) by reviewing the research literature, identified the concept and components of electronic business models, then stated the organizational and environmental prerequisites needed for the design of electronic business models and based his framework on Finnegan and Hayes criteria for choosing the appropriate e-business model based on Simon's decision-making approach has been introduced. Fathian and Toheidi (2015) have introduced a framework for small and medium service companies in the country to choose an electronic business model. In their research, they found that the criteria of organization size, e-business culture, level of innovation, technical infrastructure, main profitable activities, the company's position in the supply chain, understanding and recognition of models e-business, the company's required resources, the company's target market, the nature of the company's products, the strategies of different levels of the organization should be taken into consideration in choosing the company's e-business models. Therefore, by summarizing these ideas, the factors affecting the choice of an electronic business model can be expressed as described in the following table.

Efficiency is one of the most important factors in creating value in electronic business; e-business reduces redundant information, lowers the cost of searching for customers and bargaining, and provides a larger volume of products or services at a lower cost (such as human labor costs, paper costs, time costs, etc.) exchanges.



Theoretical foundations and research background

Turban (2002) considers electronic commerce to include buying and selling goods, services, and information through electronic tools such as the Internet.

According to Rapport and Jaworski (2001), electronic business is a technological exchange between departments (individuals or organizations) and electronic activities within and between organizations that facilitate such exchanges.

The business model specifies how a company can make money and, for this purpose, specifies where this company is located in the value chain. To put it simply, the business model communicates between the inputs and outputs of an organization. The centrality of the business model shows its importance. Therefore, if we want to know how the inputs of an organization can be converted into appropriate outputs, or how the outputs of an organization can be used to control and influence the organization's inputs, we must acquire a model and design the work correctly and understand it correctly (Amirreza Mehraban et al., 2016).

Research background

In their research, Amirreza Mehraban et al (2016) examined the concept of business models and various frameworks in the field of online business models, and we fully examined the framework based on customer needs. This framework offers the possibility of presenting an integrated model of the company's business activities in different fields, which is one of its strengths. What is certain is that choosing a specific business model alone will not lead to the success of the organization, and the important thing is that the selected model is compatible with the business platform and environment, the capabilities of the company, and the specific needs of the customer.

Fathi et al. (2010) in this research have tried to use the strategic planning model at the level of the organization, industry, national, and international to organize the model of e-commerce research. Therefore, after designing the initial model (proposal), by referring to several researches conducted in the field of classification of e-commerce issues, this model was modified and revised and five general indicators were used to measure the importance and priority of this plan. were identified. In the third stage, the desired model was placed at the disposal of e-commerce experts in the country to perform deletions and additions, and the coefficient of importance of the indicators identified in the previous stage was determined by these experts. In the fourth stage, after modifying the model and designing the final model, each research class was measured by e-commerce experts based on the mentioned indicators. The result of this research is the classification of e-commerce research related to each year of a five-year plan.

Ruhollah Nouri (2015) in this research, which is the result of a research project, after explaining the literature on the maturity of e-commerce, presented a model suitable for exporting companies and measured the level of e-commerce maturity of exporting industrial companies. Examining the ratio of the presence of the investigated companies in several stages shows that the companies are passing the first stage and moving towards higher stages, which can promise relative mobility and a sense of the necessity of e-commerce development. To improve the level of e-commerce, managers should receive the necessary training. Other companies can take



advantage of these indicators by making minor changes and determining the maturity level of their e-commerce.

Majid Hashemi (2010) in this research, the effect of the application of electronic commerce on the amount of export of oil, gas, and petrochemical products has been investigated, and necessary conclusions and suggestions have been presented. In this research, the statistical sample includes companies that are members of the Oil, Gas and Petrochemical Products Exporters Union. After examining and analyzing the indicators of e-commerce capabilities, 24 main indicators were identified and compiled in the form of three variables: improving the efficiency of the export process, increasing income, and reducing export costs, and the results indicated a positive and significant effect. The use of e-commerce is evaluated on the amount of exports and three variables. According to the results of the research, it is recommended to government policymakers active in the field of export as well as managers active in the field of export, that they give the necessary attention to e-commerce to develop export, in formulating their export policies.

In this research, Rezvani and Rouhani (2013) have presented a new typology of electronic business models based on strategic reference points in small and medium-sized electronic businesses in Iran by reviewing the literature on the subject. For this purpose, 400 small and medium-sized electronic businesses in Iran were examined by an electronic questionnaire, and software was used to analyze the data and answer the research questions. The results showed that the focus of attention and the degree of control are effective strategic reference points in the selection of electronic business models in the mentioned typology.

In this research, Amiri et al. (2013) examine the factors affecting the implementation of electronic business in small and medium-sized companies. For this purpose, after examining the background of the research and extracting 61 indicators in the form of 10 dimensions, as effective factors in the implementation of electronic business in small and medium-sized companies, the status of the studied companies was investigated. The results show the existence of an internet address, the high level of communication systems in the organization, the management of physical and financial resources, preparation for production, the size and level of product production, consumer protection, the existence of customs tariffs, and the transportation system. The development of credit cards and organizational culture are the most important factors affecting the implementation of electronic business in small and medium-sized companies.

Magertta (2002) considers business models as a set of narratives that describe how companies work and what specific characteristics companies have, as well as the business model. describes as a map of how to deliver value.

MATERIALS AND METHODS

In terms of the purpose of this research, it is of applied type. This study is a field study in terms of method. The statistical population of this research includes all the employees of Iran Khodro Company, whose number is 400. In this research, it is random sampling. In this research, we



first use tables and graphs to describe the age, gender, education, and work experience of the statistical population. SPSS and AMOS software are used to analyze the obtained data. which is under exploratory research on the effect of e-business on timely delivery to customers in Iran Khodro Company. To measure reliability, Cronbach's alpha method was used using SPSS 21 software. Using the data obtained from these questionnaires and with the help of SPSS 21 statistical software, the reliability of this questionnaire was calculated using Cronbach's alpha method as 0.881, which is more than 0.7, so the reliability assumption of the questionnaire is confirmed. becomes In this research, a questionnaire was used to collect data.

A questionnaire was used to obtain the opinions of the employees of Iran Khodro Company, who are considered the center of research information, to prevent any interference in the information. A regulatory questionnaire was presented to the employees in person and the necessary explanations about them were given to the respondents to answer the questions raised; this work continued for more than 26 days. The familiarity of the employees with the questions of the questionnaire and the correct understanding that was observed in facing them, confirms the validity of the above questions. Even though the questionnaire has been used for different groups of employees, it has been tried to design the questions and express the concepts in such a way that no special problem occurs and it can be used by different users. The opinions of professors and experts have also been used.

The questionnaire used in this project consists of 2 general parts, the first part contains customer information for descriptive statistics and the second part contains questions related to hypotheses.



RESULTS AND DISCUSSION

Descriptive statistics

Description of demographic characteristics

A) Questionnaire respondents based on gender

Based on the results, the majority of people in the statistical sample are men (70 percent).

b) Questionnaire respondents based on the level of education

Most of the people in the studied sample (47%) have a bachelor's degree, and the least of them are doctorates (0%), also there is no person with a diploma below the statistical sample.

c) Questionnaire respondents based on age

Most of the people in the study sample (40%) are in the age group of 30 to 40 years and the least of them are in the age group of 50 years and above (5%).

c) Questionnaire respondents based on work experience

According to the results, most of the people in the study sample (40%) have work experience of 10 to 15 years and the least of them have work experience of more than 20 years (5%).

Inferential statistics

Calculating the reliability of research questions

To determine consistency or coherence or internal stability, the questions of the questionnaire that are supposed to measure the aspects of a concept or structure should have a relatively high correlation with each other. One of the measurement methods for internal consistency is the calculation of a type of reliability that is done through Cronbach's alpha and is known as the alpha coefficient. The general rule is that the Cronbach's alpha value of a questionnaire should be at least close to the numerical value of 70%. Of course, it should be noted that its high level (above 90%) is not always proof of good quality, because first of all, there may be multiple and single collinear questions, that is, the questions overlap (their common covariance is high), and in other words, the same thing they measure that in this case one of the questions that have a high overlap should be kept and the rest removed from the questionnaire. Secondly, the questions may have little correlation with each other, in which case it is better to pay attention to the other three items that appear in the SPSS report.

George and Mallery (2003) classify Cronbach's alpha values into the following five categories based on a rule of thumb. Therefore, the value of Cronbach's alpha coefficient (0.788) indicates the acceptable reliability of the questionnaire.

As can be seen in **Table 1**, the first column is the symbol of the items, the second column is the mean of the scale if that item is removed, and the third column is the variance of the scale if that item is removed, the fourth column is the correlation of each item with all the items of the scale and the fourth column shows Cronbach's alpha coefficient if that item is removed. If an item has a negative or weak correlation with other items and Cronbach's alpha increases if it is removed, it should be removed from the scale. Since none of the items have these conditions, they are not removed from the scale. Also, the reliability results of each research variable are as follows:

Table 1. Calculation of Cronbach's alpha coefficient

Variables	Number of questions	Cronbach's alpha coefficients	Result
Supply chain	5	0.70	Confirmation
Business value	4	0.70	Confirmation
Customer relation management	3	0.77	Confirmation
Information Technology	4	0.72	Confirmation
Operational activities	3	0.75	Confirmation
Organizational performance	4	0.76	Confirmation
Environmental conditions	4	0.79	Confirmation

Confirmatory factor analysis



In this study, a questionnaire was used to collect data. Therefore, using confirmatory factor analysis, the general structure of the research questionnaires has been subject to content validity.

The measurement model represents the factor loadings of the observed variables (factors) for each latent variable. The strength of the relationship between the factor (hidden variable) and the observable variable is shown by factor loading. Factor load is a value between zero and one. If the factor load is less than 0.3, the relationship is considered weak. Factor load between 0.3 and 0.6 is average and if it is greater than 0.6, it is very favorable.

In confirmatory factor analysis, it is also important to pay attention to the fit of the model. Common fit indices in measurement models for the underlying variables of the research are presented below each figure. Among the fit indices, if the ratio of chi-square to the degree of freedom is less than 2, the model has a good fit. The RMSEA index is less than 0.05. The closer the other indicators are to one, the more favorable it is (Qasemi, 2019).

In the following, the forms related to these analyses and the results of the factor analysis are presented. It is noted that the correlation between the errors in the shapes has increased the fit of the model. These connections are based on the modification index provided in AMOS software. In this way, the higher the modification index is for a relationship, the addition of that relationship in the model will improve its fit.

Confirmatory factor analysis of business value variable

According to the results, the absolute values of the skewness critical ratios are all greater than 2.58, but on the other hand, the absolute values of the elongation ratios are all less than 2.58, and therefore the variables have a univariate normal distribution. "Merdia coefficient" in the last line and its critical value is less than 2.58. Therefore, the above 4 variables have a multivariate normal distribution.

Specified and non-specified models

For the model to be specific, it is necessary to have two conditions called "rank condition" and "order condition". Model 2 has the rank condition because the degree of freedom of the model must be zero or positive, which is 2 in model 2 according to the following output:

10 is the number of non-redundant elements of the variance-covariance matrix of the observed variables.

8 is the number of free parameters defined in the model. The degree of freedom is the difference between these two values, and therefore, to modify the model, two other parameters can be defined as free parameters in the model.

Model 1 also has the order condition because it is possible to perform calculation operations in matrix algebra in order to estimate parameters and reproduce the variance-covariance matrix of the observed variables. The chi-square ratio of the business value model to the degree of freedom is 4.07 and inappropriate. The comparative fit indices are above 90% and suitable. Economic indicators are all lower than 50% and are inappropriate. The RMSEA index is higher than 5% (0.088) and inappropriate. Holter index is also above 200 and suitable. Therefore, in general, it can be said that the model has an inappropriate fit and minor modifications are needed in the model.



According to the results, it is proposed to modify the model, which reduces the chi-square by 3 by making a connection between two errors of 3 and 1. By communicating, the fit of the model improved, so the model is presented as follows (Figures 1, 2).

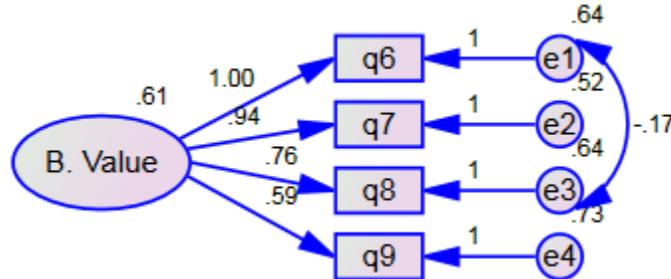


Figure 1. Corrective model of confirmatory factor analysis of business value variable with non-standard coefficients

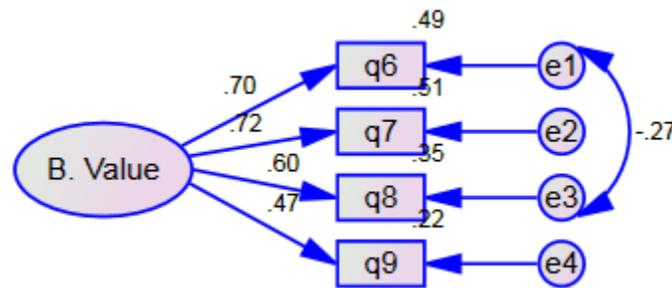


Figure 2. Corrective model of confirmatory factor analysis of business value variable with standard coefficients

The chi-square ratio of the business value model to the degree of freedom is 0.39 and is suitable. The comparative fit indices are all above 90% and suitable. The RMSEA index is lower than 5% (0.000) and is appropriate. Economic indicators are all lower than 50% and are inappropriate. The Holter index is higher than 200 and indicates sufficient sample volume. Therefore, the whole model has a good fit partial fit indices (critical ratio and significance level).

According to the output of the Amos software and the significance levels for the confirmatory factor analysis of the business value variable in **Table 2**, all the factors and their relationship with the current variable were confirmed. **Table 3** shows the standard coefficients, i.e. the extent to which each variable can play a role in measuring business value. According to the coefficients of item 6, i.e., trading efficiency with a coefficient of 0.70, the largest role, and item 9, i.e., profitability with a coefficient of 0.47, have the least role in measuring the variable of business value.

Table 2. Standard coefficients

	Estimate
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q6	(trading yield) (---)	Business value	.701
q7	(size of the company) (---)	Business value	.715
q8	(Fund) (---)	Business value	.595
q9	(profitability) (---)	Business value	.473

Table 3. Covariances: (Group number 1 - Default model)

			Estimate	S. E.	C. R.	P	Label
e1	(--)	e3	-.173	.064	-2.696	.007	

The results of the research hypothesis test

First hypothesis: business value is effective on productivity and timely delivery of products to customers.

Null hypothesis: business value is not effective on productivity and timely delivery of products to customers.

Research hypothesis: business value is effective on productivity and timely delivery of products to customers.

Statistics related to the second hypothesis are presented in **Table 4**.

Table 4. Statistics related to the second hypothesis

Average standard error	Standard deviation	Average	Sample size
0.04	0.74	3.59	230

Table 5. t-test for the second hypothesis

Test value=3					
Average confidence interval with 95% confidence		Mean difference	Level of significance	Degrees of freedom	The value of the test statistic
Low limit	Upper limit				
0.52	0.66	0.59	0.000	229	15.96

According to **Table 5**, the value of the test statistic is 15.96 and greater than 1.96, the upper and lower limits of the mean are of the same sign and positive, and the significance level is equal to 0.000, which is less than 0.05, as a result, according to this evidence, it can be said that the null hypothesis is rejected and the research hypothesis is confirmed. The null hypothesis was defined as the lack of effect of business value on productivity and timely delivery of products to customers, and the research hypothesis was defined as the effect of business value on



productivity and timely delivery of products to customers. In this test, the null hypothesis means no effect and is rejected and from the perspective of employees, the significant effect of business value on productivity and timely delivery of products to customers is confirmed. According to **Table 5**, the average amount of comments is 3.59, which is higher than the hypothetical average of 3. This means that the employees have considered the relationship between these two variables to be high.

CONCLUSION

Based on the results of this study, it can be said that the null hypothesis is rejected and the research hypothesis is confirmed. The null hypothesis was defined as the lack of effect of business value on productivity and timely delivery of products to customers, and the research hypothesis was defined as the effect of business value on productivity and timely delivery of products to customers. In this test, the null hypothesis means no effect and is rejected and from the perspective of employees, the significant effect of business value on productivity and timely delivery of products to customers is confirmed. Also, according to the obtained results, the average number of comments is 3.59, which is higher than the hypothetical average of 3. This means that the employees have considered the relationship between these two variables to be high.

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