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Investigating the effect of environmental turmoil and dynamic capabilities on the sustainable competitive advantage of export companies with regard to entrepreneurial marketing during the Corona crisis

Abstract

The purpose of this study is to investigate the role of environmental turmoil and dynamic capabilities in the sustainable competitive advantage of export companies with regard to entrepreneurial marketing during the corona crisis in small and medium enterprises. Data for the measurement of research variables were collected by using a standard questionnaire that includes a total of 4 structures and 16 questions. The questionnaire was assessed by the content validity method. Cronbach's alpha coefficient was used to calculate the reliability and it was calculated at the optimal level by <0.7. In this research, the statistical population includes managers of top exporting industrial companies. After ensuring the validity and reliability of the designed scales based on the calculations, the questionnaires were distributed to a sample of 196 people. A structural equation model was used to analyze the collected data and determine the relationships between variables. Data were analyzed using SPSS and SMART-PLS statistical software. The results show that as for research hypotheses, entrepreneurial marketing has a mediating role in the relationship between environmental turmoil and dynamic capabilities with a competitive advantage.

Keywords: *environmental turmoil, dynamic capabilities, sustainable competitive advantage, entrepreneurial marketing, structural equation model.*

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Introduction

Dynamic environments and competitive pressures have reduced corporate differentiation and destroyed competitive advantage. Companies must be able to identify market dynamics and react to them timely; otherwise, they will lose market share and consumer share (Baluchi et al., 2019).

Researches show that companies need to reconfigure and renew their resources and capabilities to overcome the environmental changes that have now become the global concept of dynamic capabilities (Tecee, 2018). This dynamic capability has a competitive advantage for organizations. In their research, Basakzadeh et al. (2020) "explained the competitive advantage of Iranian export companies with the approach of the theory of dynamic capability and organizational ambiguity." In their research, Khouroh et al. (2020) investigated the mediating effect of entrepreneurial marketing on environmental turbulence and dynamic ability with a sustainable competitive advantage. Wang et al. (2020) in their research examined how the effect of environmental turbulence on the entrepreneurial orientation of companies. Eggers et al. (2020) conducted a study entitled "Creating a benchmark for entrepreneurial marketing, showing its internal framework and predicting performance."

Meanwhile, small and medium companies have an important and strategic role in advancing the national economy but the industrial age makes the challenges facing these companies more difficult. The ability to adapt as a tool to cope with changes that occur in the external environment has become a problem. Some changes such as the effect of globalization, and changes in information technology and regulations are changes that potentially cause turbulence in the environment. This change affects the relationship between strategy and the achievement of competitive advantage. Small and medium industries are among the most important industries whose survival requires innovation and the development of new marketing strategies. And this industry model due to having comparative advantages of creating added value and high employment can play an effective role in the country's economy (Jafarinia et al., 2019). On the other hand, companies around the world today face a serious problem called the coronavirus, which affects all human activities and destroys some businesses. Meanwhile, small and medium-sized export companies have also suffered heavy losses. If these companies cannot use their capacity and improve their ability by relying on entrepreneurial marketing they are doomed to destruction. Despite this new problem, there is very little research in this field. As a result, the present research contributes to the research literature in a theoretical dimension and terms of performance; it helps small and medium-sized companies in this difficult situation to ensure their survival.

Research method:

The present study was an applied and descriptive-survey research. The statistical population includes managers of top exporting industrial companies. Considering that we have the100 top exporting companies, in this research are considered 400 managers, and by using the Cochran's formula, 196 managers were selected randomly as a sample. to collect

information were used the Field and library methods. The questionnaire consists of two categories of general information and specific information. To answer the specific section, several scales were used, which are taken from the research of Khouroh et al. (2020). In the present study, we used formal validity methods to evaluate the validity of the questionnaire. We gave the questionnaire to several experts and asked their opinions. This study used descriptive statistics (mean, standard deviation, skewness, and kurtosis) and inferential statistics (structural equations) in SPSS and PLS software to analyze the data.

Findings:

Descriptive statistics of research variables:

Table 1 shows the status of descriptive statistics of variables.

Table 1- Descriptive statistics of research variables

Variable	Kurtosis	skewness	Variance	Standard deviation	Average	Maximum	Minimum
Environmental turmoil	0.054	-0.242	0.376	0.613	3.699	5.000	2.000
dynamic capabilities	-0.0565	0.027	0.480	0.693	3.694	5.000	2.000
entrepreneurial marketing	0.121	-0.158	0.283	0.532	3.673	5.000	2.143
Competitive Advantage	-0.251	-0.055	0.451	0.671	3.666	5.000	2.000

Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis of environmental turmoil

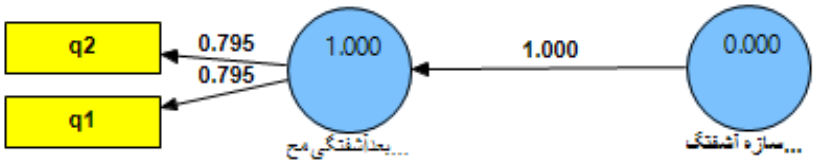

Figure 1- Confirmatory factor analysis model of environmental turmoil in standard coefficient estimation mode

According to Figure 1, all factor loads are greater than 0.4. So these indicators remain in the model.

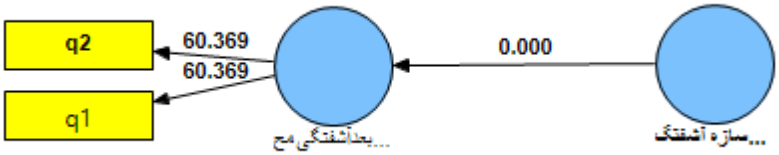

Figure 2- Environmental turmoil model in significant condition (t-value)

Figure 2 shows the research model in the absolute value of significant coefficients (t-value). This model tests all measurement equations (first and second-order factor loads) and structural equations using the t-statistic. According to this model, if the value of t is greater than 1.96, each of the factor loads and path coefficients is significant at the 95% confidence level. The results show that all factor loadings are significant at the 95% confidence level.

Table 3- Validity and reliability indices of environmental turmoil model

	GOF	$\sqrt{R^2}$	$\sqrt{AVE}$	Cronbach's alpha	R^2	CR	AVE
dimension of environmental turmoil	0.855	1	0.855	0.716	1	0.744	0.731
Environmental turbulence structure				0.716		0.744	0.731

According to Table 3, all coefficients for the two factors of marketing dimension and marketing structure are in the appropriate range.

The goodness of fit index of the environmental turbulence model (GOF)

The value of the fit index was 0.855 and it was larger than the value of 0.4, which indicates a suitable fit for the model. In other words, the data of this study fit well with the factor structure and theoretical basis of the research and this indicates that the questions are in line with theoretical constructs.

Confirmatory factor analysis of dynamic capabilities:

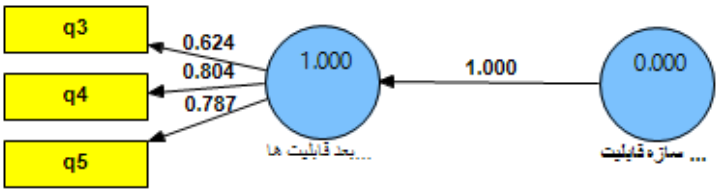

Figure 3- Confirmatory factor analysis model of dynamic capabilities in the standard coefficient estimation mode

According to Figure 3, all factor loads are greater than 0.4 so these indicators remain in the model.

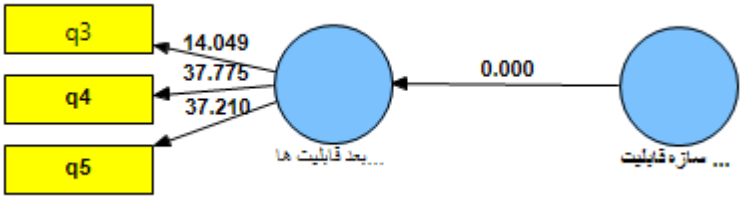

Figure 4- Dynamic capabilities model in a meaningful state (t-value)

Figure 4 shows the research model in t-value mode. This model tests all measurement equations (first and second-order factor loads) and structural equations using the t-statistic. According to this model, each of the factor loads and path coefficients is significant at the 95% confidence level if the value of t is greater than 1.96. The results show that all factor loadings are significant at the 95% confidence level.

Calculation of validity and reliability indices of dynamic capabilities model

Table 4 - Validity, and reliable indicators of dynamic capabilities model

	GOF	$\sqrt{R^2}$	$\sqrt{AVE}$	Cronbach's alpha	R^2	CR	AVE
dimension of dynamic capabilities	0.743	1.000	0.743	0.788	1.000	0.785	0.552
Dynamic capability structures				0.788		0.785	0.552

According to Table 4, all these coefficients are in the appropriate range.

The goodness of fit index of the dynamic capabilities model

The value of the fit index was equal to 0.743 and is greater than the value of 0.4, which indicates a suitable fit for the model.

Confirmatory factor analysis of entrepreneurial marketing

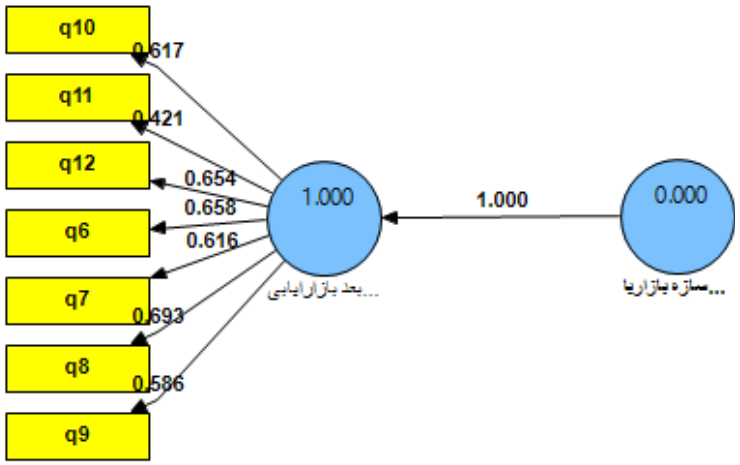

Figure 5 - Confirmatory factor analysis model of entrepreneurial marketing in the case of standard coefficient estimation

In figure 5, all factor loads are greater than 0.4. So these indicators remain in the model.

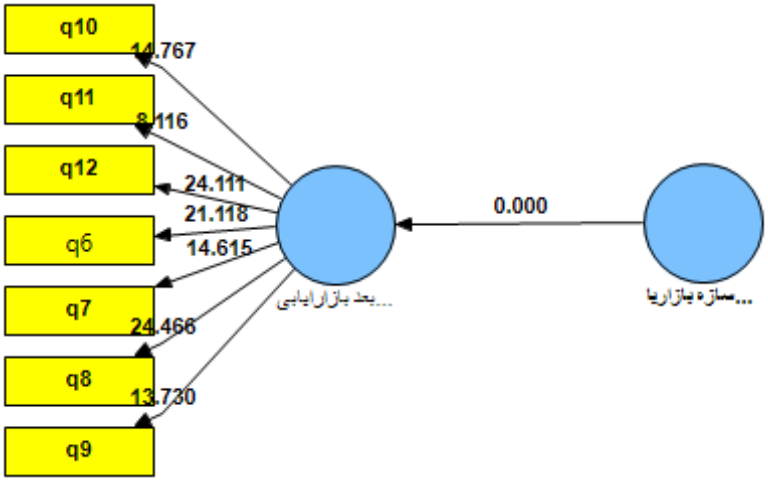

Figure 6- Entrepreneurial marketing model in t-value mode.

Figure 6 shows the research model in t-value mode. This model tests all measurement equations (first and second-order factor loads) and structural equations using the t-statistic. According to this model, each of the factor loads and path coefficients at the 95% confidence level is significant if and only if the value of t is greater than 1.96. The results show that all factor loadings are significant at a 95% confidence level.

Calculating the validity and reliability indicators of the entrepreneurial marketing model

Table 5 - Validity and reliability indicators of entrepreneurial marketing model

	GOF	$\sqrt{R^2}$	$\sqrt{AVE}$	Cronbach's alpha	R^2	CR	AVE
dimension of entrepreneurial marketing	0.758	1	0.758	0.716	1	0.805	0.575
entrepreneurial marketing structures				0.716		0.805	0.575

According to Table 5, all the coefficients of the two factors of marketing dimension and marketing structure are in the appropriate range.

The goodness of fit index of the Entrepreneurship marketing model

The value of the fit index was equal to 0.758 and is greater than the value of 0.4, and this indicates the proper fit of the model.

Confirmatory factor analysis of competitive advantage

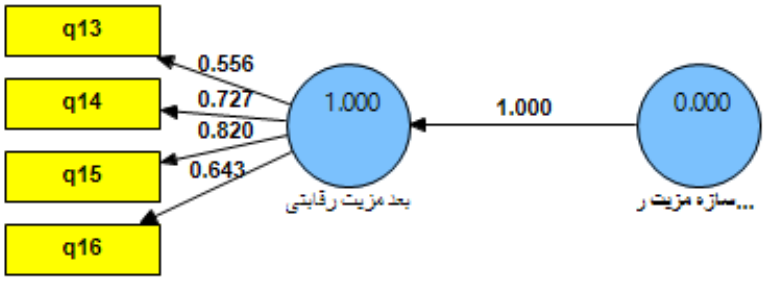

Figure 7- Confirmative factor analysis model of competitive advantage in standard coefficient estimation mode

As shown in Figure 7, all factor loads are greater than 0.4, so these indices remain in the model.

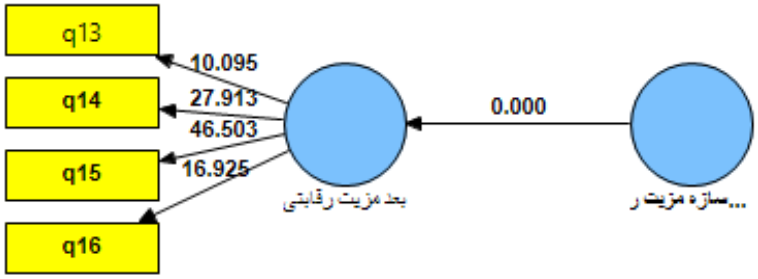

Figure 8- Model of competitive advantage in t-value mode.

Figure 8 shows the research model in t-value mode. This model tests all measurement equations (first and second-order factor loads) and structural equations using the t-statistic. According to this model, each of the factor loads and path coefficients is significant at the 95% confidence level if and only if the value of t is greater than 1.96. The results show that all factor loadings are significant at a 95% confidence level.

Calculation of validity and reliability indices of competitive advantage model

Table 6- Validity and reliability indices of competitive advantage model

	GOF	$\sqrt{R^2}$	$\sqrt{AVE}$	Cronbach's alpha	R^2	CR	AVE
dimension of competitive advantage	0.762	1.000	0.762	0.732	1.000	0.784	0.581
competitive advantage structures				0.732		0.784	0.581

According to Table 6, all these coefficients are in the appropriate range.

The goodness of fit Index (GOF) of the Competitive Advantage Model

The value of the fit index was equal to 0.762 and is greater than the value of 0.4, and this indicates the proper fit of the model.

Structural model validation

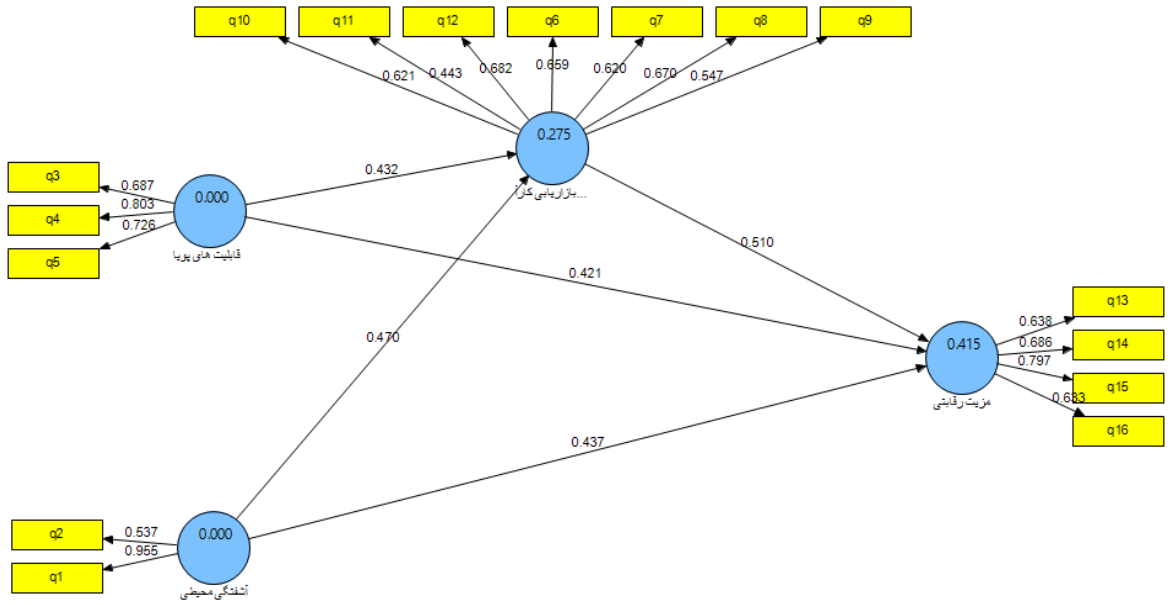

Figure 9- Structural equation model in the case of estimating standard coefficients to test research hypotheses

Figure 9 shows the structural equation model in the mode of estimating the standard coefficients of the research hypothesis. In this model, the dynamic capabilities and environmental turmoil (independent) were exogenous effects, competitive advantage (dependent) was the endogenous effect and entrepreneurial marketing was mediating effect.

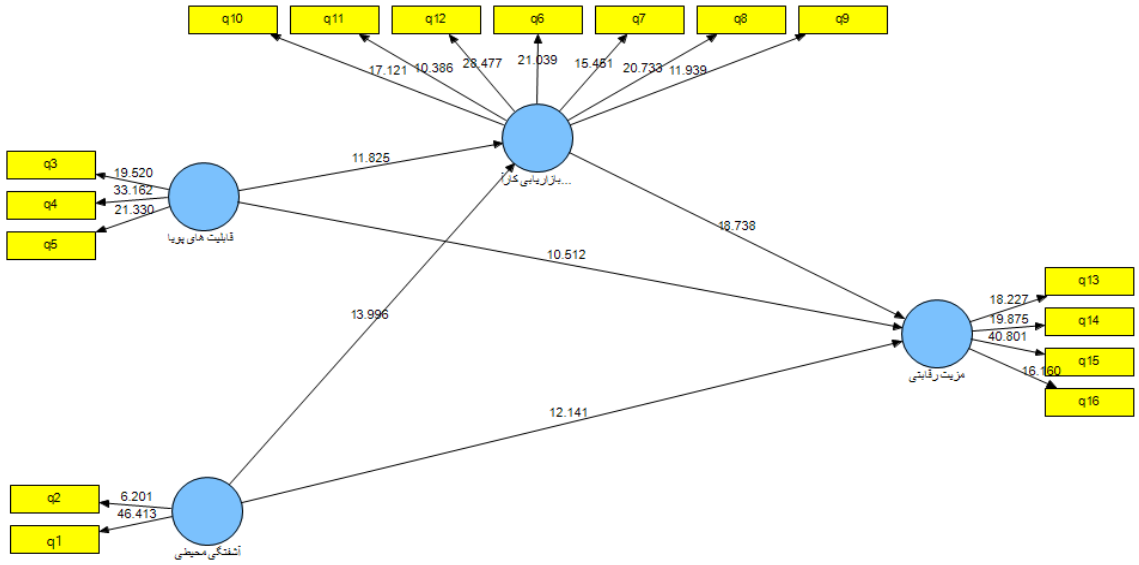

Figure 10 - Structural equation model in t-value to test research hypotheses

Figure 10 shows the research model in t-value mode. This model tests all structural equations of the research hypothesis using the t-statistic. According to this model, the path coefficient and factor load are significant at the 95% confidence level if the value of the t-statistic is greater than + 1.96.

Based on the obtained results, the evaluation of research hypotheses was performed as follows:

Hypothesis 1: Dynamic capabilities have a significant effect on sustainable competitive advantage.

Based on the diagrams in Figures 9 and 10, the relationship between dynamic capabilities and sustainable competitive advantage has been calculated to be 0.421, which shows that the correlation is favorable. The t-test of the test is 10.512, which is greater than the critical value of t at the error level of 5%, ie 1.96, and this shows that the observed correlation is

significant. Therefore, the first main hypothesis of the research is confirmed and it can be said that dynamic capabilities have a positive effect on sustainable competitive advantage.

Hypothesis 2: Environmental turmoil has a significant effect on sustainable competitive advantage.

Based on the diagrams in Figures 9 and 10, the strength of the relationship between environmental turbulence and sustainable competitive advantage has been calculated to be 0.437, which shows that the correlation is favorable. The t-test of the test is 12.141, which is greater than the critical value of t at the 5% error level, ie 1.96, and shows that the observed correlation is significant. Therefore, the second main hypothesis of the research is confirmed and it can be said that environmental turmoil has a positive effect on sustainable competitive advantage.

Hypothesis 3: Dynamic capabilities through entrepreneurial marketing have a significant impact on sustainable competitive advantage.

According to the diagrams in Figures 9 and 10, the power of an indirect relationship is as follows:

a = The effect of dynamic capabilities on entrepreneurial marketing is equal to a factor load of 0.432 and the value of t statistic is equal to 11.825.

b = The effect of entrepreneurial marketing on sustainable competitive advantage is equal to a factor load of 0.510 and the value of t is equal to 18.738.

Therefore, the value of the Sobel test is equal to 10.002, which is greater than the critical t value of 1.96, so the third hypothesis is confirmed according to the Sobel test and it is accepted that entrepreneurial marketing plays a mediating role in the relationship between dynamic capabilities and sustainable competitive advantage.

Hypothesis 4: Environmental turmoil through entrepreneurial marketing has a significant effect on sustainable competitive advantage.

According to the diagrams in Figures 9 and 10, the power of an indirect relationship is as follows:

a = The effect of environmental turmoil on entrepreneurial marketing is equal to a factor load of 0.470 and the value of the t-statistic is equal to 13.996.

b = The effect of entrepreneurial marketing on sustainable competitive advantage is equal to a factor load of 0.510 and the value of t is equal to 18.738.

Therefore, the value of the Sobel test is equal to 11.213, which is greater than the critical t value of 1.96, so the fourth hypothesis is confirmed according to the Sobel test and it is accepted that entrepreneurial marketing plays a mediating role in the relationship between environmental turmoil and sustainable competitive advantage.

Discussion and conclusion

The purpose of this study is to investigate the role of environmental turmoil and dynamic capabilities in the sustainable competitive advantage of export companies with regard to entrepreneurial marketing during the corona crisis in small and medium enterprises.

The results of statistical hypothesis tests showed that**:**

1- Dynamic capabilities have a significant effect on sustainable competitive advantage. The results of this hypothesis are consistent with the results of the research of Khouroh, et al. (2020) and Basakzadeh et al. (2020). To achieve sustainable competitive advantage, it is best for companies to choose the right strategy. The right strategy for companies is to differentiate the company from other companies during the corona and to cause differentiation. Therefore, the managers of a company with a successful differentiation strategy have the potential to reduce price sensitivity and increase brand loyalty on the part of customers.

2- Environmental turmoil has a significant effect on sustainable competitive advantage. The results of this hypothesis are in line with the results of the research of Khouroh, et al. (2020). Environmental turmoil in the Corona era has changed companies' competitive advantage. Companies need to be aware of the complexity of the environment and the new needs of their customers in the time of Corona and innovate quickly, with the threat of a crisis, many companies may be defensive, but many companies must innovate to survive. With the advent of coronavirus, existing companies expect that with the dynamics of the environment, new actions will be taken in the society, which may be changed the habits of the past.

3- Dynamic capabilities through entrepreneurial marketing have a significant impact on sustainable competitive advantage. The results of this hypothesis are in line with the results of the research of Khouroh, et al. (2020). During the corona era, companies must adapt their entrepreneurial marketing to the corona environment in order for dynamic organizational capabilities to affect the organization's sustainable competitive advantage. In companies, the best and worst-case scenarios that can be implemented in times of crisis and based on the prospect of acquiring customers and partners should be defined in theory then, with the cooperation of units such as human and financial resources, appropriate strategies are developed and scenarios are designed that can be implemented on the whole business. Marketing should not be based solely on the macro scenarios of the organization but should go beyond the

organizational and brand boundaries. Identify specific challenges that customers and the brand and marketing unit may experience in each scenario then consider the appropriate action for each.

4- Environmental turmoil through entrepreneurial marketing has a significant impact on sustainable competitive advantage. The results of this hypothesis are in line with the results of the research of Khouroh, et al. (2020). Companies need to do the right entrepreneurial marketing to be effective in order to achieve a sustainable competitive advantage in the face of environmental complexity and market turmoil and post-Corona environmental turmoil.

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