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**INVESTIGATION OF THE EFFECTS OF ORGANIZATIONAL  
CHANGE AND ENVIRONMENT ON COMPANY  
COMPETITIVENESS**

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***Abstract***

The purpose of this study how organizational change and environment determine the effects of the relationships between innovation performance and firm competitiveness with the environment change variable effect. Within the scope of the research model, the effects of environment and organizational change, which are thought to be a factor in the competitive environment, are examined on the competitive capabilities and innovation performances of firms. Within the scope of the research, questionnaires were collected from 300 white collar employees. SPSS 25 Program was used for the analysis of the scales representing the variables used in the collected questionnaires. In the analysis of the data prepared using the 5-point Likert scale, firstly; factor and reliability analysis, and then correlation and regression analyzes were performed. In addition, regression analysis and sobel test were performed for the analysis of the effect of the mediation variable. As a result of the study, it is observed that there is an effect on the relationship between Innovation performance and Firm competitiveness in the relationship between Organizational change and variable effect. Environmental impacts and organizational change can directly and indirectly affect the competitive aspects of organizations.

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**Keywords:** Environment, organizational change, innovation performance, innovation, competitiveness, firm competitiveness.



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## 1. Introduction

The strategic alliance is a term used to describe a very large area of relatively permanent inter-party cooperation arrangements. Constantly changing needs and demands of consumers, make comparisons between product and price, competition between firms has increased considerably. This situation can be seen in the cooperation between the companies. Companies which want to be successful in competition, reducing the use of raw materials from outside suppliers and by eliminating non-expert activities, concentrated on their own business, they are aiming to become more and more powerful in cooperation with the best companies in their fields. Alliances between these interfaces include formal contracts or cooperation relationships not fully defined by ownership. Therefore, in terms of economic organization theory, they are among the hierarchies with polar market models. As a result, collaborative relationships between enterprises are seen as 'intermediate' or 'mixed' organizational forms (Grant & Baden-Fuller, 2004). Furthermore, organizations make strategic alliances with suppliers and customers to achieve various strategic goals, so active participation can lead to various positive results, from the acquisition of resources to synergy. Efficient collaborative regulations are strong implements such as strategic alliances that companies can compete in today's business environment by increasing market power and growing productivity, entrancing recent or critical resources, and entering new markets. Even under perfect conditions, cooperative relations tend to fail due to organizational and behavioral problems. The advantages arising from collaborative arrangements override the problems connected with these regulations (Siew-Phaik, Downe, & Sambasivan, 2013). Within this context, Strategic alliances emerge in response to two main motivations: the "defense" instinct is a desire to achieve survival or "aggressive" competitive advantage. Depending on the effect of internal and external forces, many types of strategic alliances can occur. Porter (1985) offers a model that claims that the dynamics and profitability of an industry is based on time-varying relationships between industry competitors, suppliers, customers, representative product manufacturers and newly entered firms. Contributors in a specific sector can prefer from actors who are clearly identified as potency alliance joints, and these strategic alliances can be created in any consolidation within the industry. For instance, substitute product suppliers and manufacturers can shape an alliance or build an industry rival alliance or form an alliance between an industry competitor (Murray & Mahon, 1993). The contributions of this study are twofold. First, we aim to determine the effects of the relationships between innovation performance and firm competitiveness with the environment variable interchange effect. Second, the choice of the manufacturing sector is that the product innovation activities are more active than the service sector. The reason why white-collar engineers are selected in the sample population is that our sample population is narrow because the product innovation is narrow. For this reason, our research aim is to evaluate and analyze the production firms in terms of both environment and organizational change, innovation performance and firm competitiveness.

## **2. Literature Review and Theoretical Framework**

### **2.1. Environment**

Organizations are open systems that are affected by their environment and affect their environment. Therefore, Organizations have to consider environmental impacts in all decisions and practices. For this reason, Environmental-Strategy-Performance Opinion appraises environmental factors as critical to the determination of strategies. For superior performance, it suggests a harmony between context and strategy. However, these proactive matching strategies have not been comparatively adequately examined in the supply chains. The aim of the research is to determine the environmental impacts of firms, to contribute to the literature by examining how the strategies they develop with the companies they need to cooperate with according to their areas of expertise affect performance. On the basis of environmental impact, the operations performed by the organization in the sector, It is based on their strategies against environmental conditions. The performance of organizations can be determined as a result of the strategy they have implemented. When the environmental impact is successful, we can argue that the strategy is successful. The reason why organizations take into consideration the environment when determining a strategy is to take the right steps in order to respond to the threats coming from the environment. There is a need for proactive responses in a dynamic structure. This is a pattern that is planned to match the underlying resources in response to the binding that supports the performance results. The environmental context encourages companies to invest in creating critical resources and to use effective combinations in order to produce competitive results (Jones, 1998). The game plan is the appropriate structuring of inter-company resources to ensure compliance with context (Srivastava, Iyer, & Rawwas, 2016). Furthermore, the environment creates both constraints and opportunities for companies. Consequently, the skill to adjust to environmental changes is vital to settles the competitiveness of a firm. When faced with the rise of new global competition, rapidly changing technology and an ever more ambiguous business environment, companies can choose to build relationships such as strategic alliances (Siew-Phaik et al., 2013). In light of this perspective, The external environment in which the organization operates, the field of activity of the organization, the mode of action, the social structure in which the organization has to obey, may necessitate an organizational change or create a situation that prevents such a change. Since the organization is a sub-system of the social structure, it will be impossible to achieve a process of change and development by completely isolating itself from the social structure, Certain organizations, of course, experience the processes of change faster than the society in which they are involved, while others are slower. However, it is unlikely that organizations, which at least do not change as quickly as the society, can maintain their existence. For this reason, it is a critical skill to manage organizational change by following the changes in the society, especially in organizational administrators (Jones, 1998). As a result, how an organization has knowledge about its environment, how it behaves and how it selects and processes information, and how an organization's context affects its actions are important factors.

## **2.2. Organizational Change**

Organizational change, with the various subsystem elements of an organization and any change that may occur in the relations between them. Organizational change, which can be defined as the organization's self-harmonization by reacting to the changes in its environment for the purpose of sustaining its lives. Additionally, Organizations are open systems. They cannot protect themselves from environmental changes. They must therefore react to the internal and external pressures to change. Organizations need creativity to survive in a fugacious environment. From resource dependence perspective, The resource dependence theory, which focuses on what the organizations do and why, in the face of the obstacles and threats their environment may create states that organizations are inevitably related to their environment by saying that organizations exist to be effective (Pfeffer & Salancik, 1978). In this context, organizations have a definite dependence on other organizations, as most of the resources they need to ensure the continuity of the organizations are provided by other organizations around them. Therefore, the main problem here is to reduce the uncertainty in the environment by guaranteeing the flow of resources (Pfeffer & Salancik, 1978). At this point, the resource dependency approach, which gives the manager the task of managing the environment and creating as necessary, accepts the existence of actors on the environment, even though it imposes some limitations, although it mentions the adaptation of the organization to the environment. Therefore, although the change according to resource dependency is based on harmony, at this point the manager is an actor who is responsible for changing the organization. The changes made by organizations in order to be successful against competitors can force employees; Since creativity is not inheritable, it comes from forcing the status quo rather than adhering to routines (Jeong & Shin, 2017). Contingency theorists emphasize the importance of harmony or partner between the organization and the environment that establishes the performance of the organization. Once more, in consonance with voluntarist view, organizations effectively engage in strategic actions in order to affect suitability, rather than being passively driven by environmental changes. The followers of a particular system share their mutual experiences, their survival strategies in a competitive environment, or their achievements in their performance, but the ability of an organization to continue its activities in a stable and successful manner in a competitive environment, organizations' adaptation to changes in their environment, or their pioneering lies. Therefore, it is argued that strategies will be successful if organizational change is adapted to the environment. The literature on dynamic capabilities underlines the lack to change the resource and ability base that effectively prevents firms from observing and adjusting to external environmental changes to inactivity in routines (Makkonen, Pohjola, Olkkonen, & Koponen, 2014). In the given theoretical context, the following hypotheses have been developed;

**H1: The environment has an statistically impact on organizational change**

**H6: In the relationship between environment and innovation performance, organizational change has a mediation effect.**

**H7: The relationship between the environment and the competitiveness of the firm has a variable effect on organizational change.**

### **2.3. Innovation Performance**

Training activities are related to organizational innovations include the acquisition machinery and equipment, other external information and other capital goods. Concordantly, As LePine and Van Dyne (2001) emphasize that innovation begins with the appreciation and production of new ideas or solutions that test past practices and standard operating methods. Besides, Innovation is a complicated process that involves several activities that are basically interdependent but also very unlike (Liang, Shu, & Farh, 2019). Innovation is described as: “the fostering of an inwardly produced or merchandised tool, order, management, plan, operation, output, or supply that is new to the embarking on organization” (Damanpour, 1988). When the literature is examined, when organizations carry out research and development activities based on innovation, there is a consensus that they will be in an advantageous position against the competitors. When look at the advantages of the organizations performing innovation; being in an important position in the market in which they are located, being among the winners in the competition race, increasing their revenues and performing a successful performance in line with the determined targets. So many studies center upon produce innovation, operation innovation and administrative innovation. In particular, innovation performance was measured with regard to technical innovation and administration innovation. Whether organizations are successful in innovation; competitors' products, market shares, management styles and business models. At the same time, the success of innovation in the product is taken into account in the performance criteria. The reason for looking at these criteria is that a single criterion does not determine the success criteria in innovation. Innovation performance should be measured by examining different criteria together (Abdallah, Dahiyat, & Matsui, 2019). In the given theoretical context, the following hypotheses have been developed;

**H2: The environment has a statistically impact on innovation performance**

**H4: Organizational change has a statistically impact on innovation performance.**

### **2.4. Firm Competitiveness**

The core of defining competitive strategy is interrelating a firm to its environment. Even though the relevant environment is very wide, surrounding sociable right along with economic impulses, the key feature of the firm's environment is the business or industries in which it contends (Porter, 1985). A knowledge-based perspective emphasizes information as a critical resource that concludes the competitive advantage of firms. A firm must advance the dynamic ability in order to integrate knowledge into areas of expertise and maintain competitive advantages to learn and in order to protect private knowledge without expropriation and imitation of competitors. Firm competitiveness is defined as the degree to which a firm enters in a marketplace, compared to its major rivals (Jiang, Yang, Pei, & Wang, 2016). Within this context, organizations can explain that they achieve a competitive advantage by acquiring valuable, rare, non-substitutable resources from the external environment. Comparing these two theories authorizes a focussed perspective on how organizations specify resource requirements, and allows organizations to examine a focussed perspective of how they can achieve these valuable resources (Hillman, Withers, & Collins, 2009). To survive, you need resources to organizations. It is possible for organizations to control the resources they have by using the right strategies against competitors. In this sense, organizations should use their resources correctly in order not to fall behind in the competition. If organizations are

unable to control resources, they may be likely to have problems in re-supplying resources. They can also be in an insecure environment against competitors. Organizations that are successful in the competition race determine product-oriented strategies for the control and utilization of their resources and realize product innovation (Pfeffer & Salancik, 2003). On the other hand, the resources are assumed to be asymmetric (non-congruence) and heterogeneous among firms in the same industry. Because industry-based theory emphasizes the uniqueness of in-house resources and firms for this hypothesis and sustainable competitive advantage, it forms the basis known today as resource-based theory (Barney & Hesterly, 2012). In the given theoretical context, the following hypotheses have been developed;

**H3: Environment has the effect on the firm competitiveness.**

**H5: Organizational change has the effect on the Firm competitiveness.**

### 3. Methodology

In order to analyze the relationship between variables within the research model, questionnaires were collected from 300 white collar. SPSS 25 program was used for the analysis of the scales representing the variables in the questionnaire. First of all, factor and reliability analyzes were performed to evaluate the scales representing the variables and factor and reliability scales were removed. Afterwards, the correlation between variables was examined by correlation analysis. Hypotheses were tested by regression analysis and sobel test was also performed to determine the effect of mediation.

#### 3.1. Research Goal

In this research, we aim to determine the effects of the relationships between innovation performance and firm competitiveness with the environment change variable effect. The selection of the manufacturing Sector is the realization of the productions of the product.

#### 3.2. Analyses

The questions are composed of questions by representing 4 variables. In the first part of the survey, the demographic information of the individuals and information about the work are given. In the second part of the questionnaire, there are questions by representing 4 variables. Environment scale; In literature research, important studies referenced in many studies were taken into consideration; Siew-Phaik et al. (2013) and, Chen and Lin (2004) used in the study by using the 5-point Likert scale and factor analysis and reliability analysis. The scale developed by Zamor in 1998 was used to measure organizational change. Innovation Performance, Nelson and Winter (1982), Danneels (2002), Lichtenthaler and Lichtenthaler (2009), Chen and Huang (2009), Verona and Ravasi (2003), Wang and Ahmed (2007), Winter (2006), Laursen and Salter (2006) developed questions. Firm competitiveness, Wu (2008), Wu et al., (2008) developed by the scale was used.

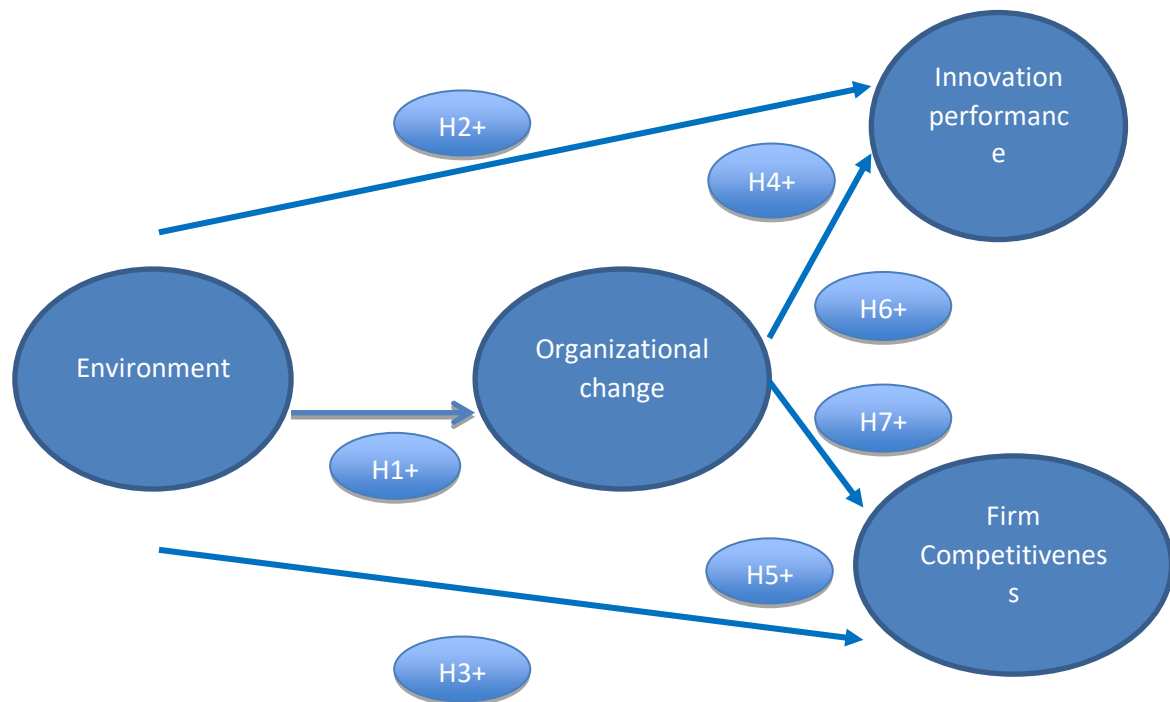
### 4. Findings

300 employees who working in different departments of 25 companies, responded to the our survey in accordance with the criteria. A total of 138 female and 162 male white-collar respondents were interviewed. While 36.7% of the participants were between the 25-30 age group; 49.7% is in the 31-36

year group. The number of engineers over the age of 36 is 13.1%. 6.8% of the workers who answered the questionnaire were high school, 16% were high school, 63.9% were university graduates. 12% of the students have a master's degree and 1.1% of them have a doctorate degree. The level of reaching the targets of the 14 participants was very low, the level of reaching the goals of the 38 participants was low, the level of reaching the targets of 107 participants was "Medium and the level of reaching the goals of the 115 participants was high and the level of reaching the targets of the 26 participants was very high 14.

#### 4.1. Research Framework

Independent Variables; Environment, Mediation variable; Organizational Change, Dependent Variables; A research model has been applied as Innovation Performance and Firm Competitiveness. In the study, a quantitative approach was adopted as the data were analyzed in order to designate the relationship between the statistical concepts. In the analysis of the relationships between the variables in the statistical sense, evaluations are made by analyzing the scales representing the variables in the collected data (Thomas, Silverman, & Nelson, 2015).



**Figure 01.** Research Model Source: Own

Büyüköztürk (2005) is defined as a multivariate statistical technique that aims to discover meaningful variables by subtracting the scales representing variables, the non-meaningful or non-variable scales. In other words, factor analysis is performed in order to evaluate whether the scales representing the variables are appropriate. In the study, there are 31 scales representing 4 variables. These scales were evaluated on a 5-point Likert scale and analyzed. As a result of factor analysis, 7 questions did not show factor distribution. The remaining 24 questions are scattered on 4 factors. The factors that are adhere to factor analysis with factor loads are shown in the table below:

**Table 01.** Factor Analysis

<b>Rotated Component Matrix<sup>a</sup></b>				
	Component			
	1	2	3	4
E4. The environment in which our company operates is unstable	0.820			
E7. The availability of critical resources in the market is low.	0.797			
E5. Unpredictable environmental change rate is high.	0.791			
E6. Environment is changing	0.774			
E8. It is difficult to obtain the resources we need from the environment in which our organization operates.	0.766			
E9. We have many options for obtaining resources.	0.750			
E3. Our organization needs to make an effort to perform better than others in the industry.	0.707			
E1. There are many companies competing in the same market with us.	0.695			
OC7.I make constructive suggestions to people who could influence change		0.749		
OC4.I change my behavior to model the desired new behaviors		0.707		
OC5. I get to know when I see people practicing ways to do new things.		0.704		
OC8.I express my opinion in meetings		0.686		
OC10. I am researching on change and clarity about the application		0.678		
OC9. I share my concerns with the initiators of the change		0.678		
OC3. I explain the rationale for change and the expected impact on colleagues and subordinates.		0.663		
OC6. I encourage the change for a long-term benefit of the organization.		0.653		
IP3. The institution I work with is the first market with new products and services.			0.808	
IP2. The institution I work for is the pioneer of technological innovation			0.784	
IP5. The institution I work with, Innovation projects are highly satisfied with efficiency.			0.779	
IP4.Average innovation project development time of my institution is very good			0.767	
IP6. The average cost per innovation project is at the desired level.			0.710	
FC1. After entering the Alliance, our organization often defeats our main competitors in the market.				0.771
FC3. After entering the Alliance, our organization can recognize changes in the market (ie competition, market conditions) faster than the main competitors.				0.761
FC2. After entering the alliance, our organization can offer more quality products and services to its customers than its main competitors.				0.639
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 5 iterations.				

E: Environment, OC: Organizational Change, IP: Innovation Performance, FC: Firm Competitiveness

**Reliability Analysis;** The reason for the reliability analysis after factor analysis is to check the internal consistency of the scales representing the variables and to calculate the mean between the scales. When the researches in the literature are examined, especially 0.70 ratio related to reliability analysis of Nunnally (1978) and Hair, Robert, and David (2000) are taken into consideration for social sciences (Büyüköztürk, 2015; Hair et al., 2000; Nunnally, 1978).

**Table 02.** Reliability

<b>Environment</b>	8	.935
<b>Organizational Change</b>	8	.907
<b>Innovation Performance</b>	5	.917
<b>Firm Competitiveness</b>	3	.833



**Correlation Analysis;** the most efficacious relationships between Environment, Organizational Change, Innovation Performance and Firm Competitiveness are discussed. As we mentioned before, the analyzes carried out so far were carried out on 300 questionnaires obtained from the institutions.

**Table 03.** Correlations

Correlations		Environment	Organizational Change	Innovation Performance	Firm Competitiveness
Environment	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	300			
Organizational Change	Pearson Correlation	.628**	1		
	Sig. (2-tailed)	0.000			
	N	300	300		
Innovation Performance	Pearson Correlation	.537**	.637**	1	
	Sig. (2-tailed)	0.000	0.000		
	N	300	300	300	
Firm Competitiveness	Pearson Correlation	.553**	.575**	.635**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	300	300	300	300

\*\* . Correlation is significant at the 0.01 level (2-tailed).

According to Regression Analysis Results; Supported and Unsupported Hypotheses Regression analysis was used to test predicted research hypotheses and 5 hypotheses were considered in Table 04. except for the inter-variable effect of these regression analyzes.

**Table 04.** Results of Hypotheses with Regression Analysis

Hypotheses	Standard $\beta$	Sig.	Supported/ Unsupported	Level of Significance (Sig.)
<i>H1: Environment has an effect on Organizational Change.</i>	.628***	.000	Supported	<i>P&lt;0.001</i>
<i>H2: Environment has impact on Innovation Performance.</i>	.537***	.000	Supported	<i>P&lt;0.001</i>
<i>H3: Environment has influence on Firm Competitiveness.</i>	.553***	.000	Supported	<i>P&lt;0.001</i>
<i>H4: Organizational Change has an impact on Innovation Performance.</i>	.637***	.000	Supported	<i>P&lt;0.001</i>
<i>H5: Organizational Change, Firm has influence on competitiveness.</i>	.575***	.000	Supported	<i>P&lt;0.001</i>

\*: p<0.05

\*\* :p<0.01

\*\*\*:p<0.001 Source: Own

Determination of mediation Effect in Research Model; in particular, Organizational change-mediation variable (MV); The mediation role in the relationship between the environment and the Innovation performance-dependent variable (DV); Organizational change; Environment-independent



**Table 08.** Mediation Variable Effect Hypothesis Results

<i>H6: In the relationship between environment and innovation performance, organizational change has a mediation effect.</i>	<b>Supported</b>	<b><i>P&lt;0.001</i></b>
<i>H7: Organizational change in the relationship between the environment and the firm competitiveness</i>	<b>Supported</b>	<b><i>P&lt;0.001</i></b>

In our research model, in which the variable effect of Organizational change is measured, it is observed that there is an effect on the relationship between Innovation performance and Firm competitiveness in the relationship between Organizational change and variable effect.

## 5. Conclusion and Discussions

Environmental impacts and organizational change can directly and indirectly affect the competitive aspects of organizations. Especially, the changes that occur in the sectors in which the organizations are located, that is, environmental changes play significant role in the changes of the organizations, but also help the organizations to take measures in order to make changes in the organization in order to be successful in the competitive environment. One of the success criteria of organizations based on the strong competitive side of the organization. The multiplication of innovative behaviours within the organization is positively reflected in the innovativeness of the organizations, namely their innovation performance (Rogers & Everett, 1983). Innovation performance refers to the extent to which the organization responds by creating strategies against environmental changes. In this study, we are able to explain that organizations provide organizational changes against environmental impacts and are reflected positively on innovation performances. If we argue that the innovation performance of the organizations should be successful in the competitive environment, it is necessary to succeed in the processes such as technology development capabilities of the organizations, the success of the new products in the market and the reduction of the costs (Chen & Huang, 2009). They prefer to advance with the imitation and / or development of the basic knowledge and skills of the competitors so that organizations can gain an advantage (Hamel, Doz, & Prahalad, 1989). Organizations that prefer to be pioneers in the competitive environment aim to be the leader in their sector by renewing their organizations against environmental changes (Hamel, 1991). A large part of this research focuses on organizational change and environmental impacts, as well as innovative performance and competitiveness, which the research considers important and valuable in a highly competitive environment. The business environment has a dynamic structure, organizations need to adapt to change and be the pioneer of change in their sector in order to be successful. Organizations need to be in a more dynamic management understanding rather than too many managerial controls and rules that lead to a inconvenient structure (Christiansen & Varnes, 2015). In a study conducted by Perreault, Canon, and McCarthy (2013). In 2013, it is stated that organizations spend more than 20 million dollars in the stage of offering a new brand to the market and only 10% of new brands entering the market for the first time are successful. It is argued that organizations should be innovative in order to be successful, competitive and invincible (Grønhaug & Kaufmann, 1988).

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