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## Strategic Responses of Top Managers to Environmental Uncertainty

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### Abstract

Managerial perceptions of their organizational environments in terms of environmental uncertainty form the basis of organizational strategies. In this study, it is aimed to determine the organizational strategies, developed in response to perceptions of environmental uncertainty measured by three dimensions, which are environmental dynamism, environmental complexity and environmental munificence. Interviews with 16 top-managers were conducted. The findings of the research demonstrate that top management's perceptions of environmental uncertainty have an impact on their companies' strategic orientations. Although most of the strategies were developed based on the perceptions of environmental munificence, mainly scarcity; only managers perceiving environmental dynamism and environmental complexity tend to form strategic alliances.

*Keywords:* Environmental Uncertainty, Dynamism, Complexity, Munificence

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### 1. Introduction

The strategies of the organizations are determined mostly according to the organizational environment. That is why; the relation of the organization with its environment is among the most important topics of strategic management. Most of the research is concentrated on the uncertainty in the environment which emerges to be a major limitation for organizational activities. Therefore, since 1960s many research on environmental uncertainty had been conducted. Nowadays, managing environmental uncertainty became much more important for organizations, since the organizations face many contingencies, such as rapid change in technology, more diversity in customers' preferences, shortening product life-cycles, scarcity of resources, and global competition. Organizations, in order to maximize their operational effectiveness, need to interact with their environments and make some necessary changes according to the environmental fluctuations (Duncan, 1972).

Environmental uncertainty is defined by Milliken (1987: 136) as, "an individual's perceived ability to predict an organization's environment accurately because of a lack of information or an inability to discriminate between relevant and irrelevant data". Environmental dimensions that generate environmental uncertainty had been debated for

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a long time. Building on the previous research of Child (1972), Pfeffer and Salancik (1978) and Aldrich (1979); Dess and Beard (1984) identified dynamism, complexity and munificence as the main characteristics of environmental uncertainty. Dess and Beard (1984) define dynamism as the level of turbulence or instability in the environment, complexity as the diversity and concentration of resources in the environment, and munificence as the relative level of existing resources.

In dynamic environments, managers are not able to determine the basis of their assumptions needed for decision-making, due to unpredictability of necessary information. In addition, complexity refers to increasing number of variables required for managers' decision making. Munificence is characterized by the degree of hostility; in low munificent environments organizations face with intense competition since many organizations compete for the same low amount of resources, which increase the importance of managerial decisions for organizational viability.

Organizational strategy is developed based on managers' perception of environmental uncertainty. When the amount of managers' perceived environmental uncertainty is high, it is more difficult to decide which actions to take. Therefore, it is important to identify which of the environmental dimensions is perceived to be most important for managers. With this research it is aimed to determine the environmental dimension that is perceived to be most important for the top-managers of organizations who are responsible for strategy-making. In addition, the strategies determined by the top-managers in regard to their perceptions are examined.

## 2. Literature Review

Contingency theory forms an important framework for organizational analysis (Donaldson, 2001). The theory is based on the argument that organizational viability depends on effective and efficient performance; it is proposed that the highest performance can be achieved when the organization responds to environmental demands in a proper way. The main reason of organizational growth and viability is the fit between internal distinctive competencies and the organizational environment (Summer et al, 1990). In order for organizations to grow and be viable, organizational structure and processes should adapt to the organizational context, such as environment, technology, organizational size, organizational culture and task characteristics (Drazin and Van de Ven, 1985).

Research on contingency theory investigated various contingencies which were assumed to have an effect on organizational viability. Research suggested organizational environment to be an important contingency. Since different environments have different economical, technical and social characteristics; the strategies and structures of the organizations in differ accordingly. Therefore, adaptation of organizations to their environments is important for their effectiveness (Drazin and Van de Ven, 1985; Donaldson, 2001).

As a result of the increasing interest in organizational environment, its conceptualization and hence measurement became important. First of all, whether the organizational environment is an objective reality or a perceived phenomenon is discussed (Sharfman and Dean, 1991). According to Weick (1979), the organizations create their environment. On the other hand, in many research, objective criteria was preferred in order to determine the organizational environment. Both objective characteristics and the perception of managers are important for the conceptualization of organizational environment (Aldrich, 1979). For many years, environmental uncertainty is the main concept related with organizational environment. Although environmental uncertainty was conceptualized differently, in most of the research organizational environment was analyzed based on three dimensions that are complexity, dynamism and resource munificence (Sharfman and Dean, 1991). According to the results of the factor analysis, Dess and Beard (1984) identified three environmental dimensions (dynamism, complexity, munificence) among the Aldrich's six environmental dimensions.

### 2.1. Environmental Dynamism

According to Duncan (1972), environmental dynamism implies the frequency of changes in the components of organizational environment. In general terms, environmental dynamism is defined as the environmental instability, rate of environmental change and unpredictability of environmental factors (Dess and Beard, 1984; Keats and Hitt, 1988). Rate of change in environmental factors is used as an explanatory variable for environmental dynamism (Gibbs, 1994). According to Dess and Beard (1984), dynamism results from technological, economic and political powers as well as the changes in market and industrial contingencies. Goll and Rasheed (1997) suggested that instability in demand indicates environmental dynamism.

As environmental dynamism increase, information necessary for decision-making will decrease (Milliken, 1987). For all of the parties (top-management, shareholders and others), with the increase in organizational dynamism, the

incompetency of the actors in evaluation of current and future state of the environment, will increase (Simerly and Li, 2000). In a dynamic environment, the implementation of rational processes is difficult; since it is less possible to collect all of the information necessary for environmental analysis, the relations between variables are less clear and changes in the environment are less predictable.

## *2.2. Environmental Complexity*

Environmental complexity is the number of important components in the organizational environment (Duncan, 1972). According to Gibbs (1994), environmental complexity is defined by the number and diversity of environmental components that the organization interacts with. As an example, presence of many potential threats and product markets with intense competition is characterized as complex environments (Dess and Beard, 1984). Boyd (1990), defines complexity as the level of competition in the industry. Keats and Hitt (1988) identifies complexity as concentration within the industry. Fragmented industries where there are many competitors represent complex environments (Dollinger and Golden, 1992).

The managers of the organizations operating in complex environments are subjected to more uncertainty, when compared with managers of the organizations operating in simpler environments (Dess and Beard, 1984). Organizations operating in more complex environments will perceive uncertainty more than others and they will need much more information (Duncan, 1972). According to Gibbs (1994), since complexity is defined based on both the number of events necessary for interaction and the information preserved by the management, it is the main impulsive force for roles related to knowledge. Besides, organizations operating in complex environments face with more stakeholders with contradicting demands (Dess and Beard, 1984).

## *2.3. Environmental Munificence*

The organizations face different dependencies. The environment is regarded as a pool of resources and the level of resource abundance is defined as environmental munificence (Dess and Beard, 1984; Castrogiovanni, 1991). Munificent environments provide organizations availability of resources, ease in access to necessary resources and the opportunity to create slack resources.

Environmental munificence is the power and capacity of the environment that foster organizational growth (Dess and Beard, 1984). Munificence can effect the strategic choices designed to benefit from environmental opportunities (Keats and Hitt, 1988). As Goll and Rasheed (1997) suggested high increase in demand corresponds to high level of munificence in the environment. In the environments characterized by high levels of munificence, organizational viability is relatively easy and such environments provide opportunity for following other organizational purposes (Castrogiovanni, 1991).

In most of the research on organizations facing environmental scarcity, scarcity is defined as the decrease in environmental resources and diminishing market size (Yasai-Ardekani, 1989). If the resources are scarce; organizational profitability and slack resources will be affected negatively (Castrogiovanni, 1991). Therefore, in such environments organizational viability is the preferential purpose.

## **3. Methodology**

### *3.1. Research Goal*

In this study, it was aimed to identify the top managers' perceptions of their organizational environment and their corresponding strategies. In order to understand the organizational strategies, semi-structured interviews were conducted with the top managers.

### *3.2. Sample and Data Collection*

Interview guide was prepared based on Miller and Friesen's (1983) survey on external environment and strategy-making. Miller and Friesen (1983) determined three variables each for environmental dynamism and hostility, and one variable for heterogeneity. Since hostility is related with the degree of competition within the industry, it corresponds

to environmental munificence and heterogeneity is also defined as complexity. Open-ended interview questions were prepared based on these variables. For environmental dynamism, interview guide contains questions about predictability of market activities of key competitors, stability and predictability of the tastes and preferences of customers in the principal industry, and rate of innovation of new operating processes and new products or services in the principal industry. Besides, for environmental munificence, interview guide contains questions about predictability of principal industry's downswings and upswings, hostility of market activities of key competitors, and affect of market activities of key competitors. Finally, for environmental complexity the question about, needed diversity in production methods and marketing tactics to cater different customers, was included in the interview guide. In addition, the questions about the strategies employed corresponding to the perceptions of environment were asked to the interviewees.

Semi-structured interviews, between September–December 2011, were conducted with 16 top managers of organizations which shares are publicly traded in İstanbul Stock Exchange, based on convenience sampling. 12 of the companies (%75) are operating in manufacturing industries and the remaining 4 of them (%25) are operating in non-manufacturing companies.

In Turkey, board of directors has a legal power to control the institutional organizational activities (Yurtoğlu, 2000); therefore they are responsible for determining organizational strategies. Accordingly, all of the interviewees for this study are member of board of directors of the companies and half of them also have executive positions in the company (Table-1). Therefore, the sample represents the top managers who are responsible for the strategies of their companies.

**Table 1:** Profiles of the Interviewees

	Frequency	Percent
Member of Board of Directors	8	50,0
Member of Board of Directors and CEO	6	37,5
Member of Board of Directors and COO	1	6,25
Member of Board of Directors and CFO	1	6,25
	<b>16</b>	<b>100</b>

#### 4. Research Findings

Data obtained from the interviews was transcribed and analyzed based on content-analysis. First of all, as a result of the analysis, it was determined that for most of the top-managers (75%), environmental munificence was perceived as the most important dimension of organizational environment. Hostility increases with the decreasing resources; most of the managers perceive that resources became much scarce in their industry and as a result competition became more intense. On the other hand, the rate of managers perceiving environmental dynamism and environmental complexity are same (12,5%).

**Table 2:** Perception of importance of Organizational Environmental Dimensions

	Frequency	Percent
<b>Environmental Munificence</b>	<b>12</b>	<b>75,0</b>
Resource Scarcity	10	62,5
Resource Munificence	2	12,5
<b>Environmental Dynamism</b>	<b>2</b>	<b>12,5</b>
<b>Environmental Complexity</b>	<b>2</b>	<b>12,5</b>
	<b>16</b>	<b>100</b>

##### 4.1. Strategies employed for Perceived Environmental Dynamism

Two of the managers perceive environmental dynamism as the most important environmental dimension and develop their strategies in order to diminish dynamism in their environment. Both of them mentioned that their companies engaged in joint-ventures with foreign companies which have a well-known reputation worldwide. The

rationale behind these strategic partnerships is to access to new innovations and to create brand recognition, in order to be in front of their competitors. The opinions are expressed as:

“In Turkey, brand could not be developed individually; the production volumes are not enough for brand-creation on your own. That is the reason behind our joint-venture. We hold on their brand and find it appropriate to expand to world markets; our strategy is flourishing in this direction”.

“Our industry is open to intense competition; we should be innovative. In this industry, we should plan tomorrow and even today. It is not possible for us to follow all of the trends and developments in the world. Important Research and Development (R&D) investment is necessary. I do not believe that R&D is done in Turkey. The funds allocated to R&D is very limited, therefore someone else should undertake this. We transfer technology from our joint-venture partner and market our products worldwide”.

#### 4.2. *Strategies employed for Perceived Environmental Complexity*

The environmental dimension perceived to be most important by two managers is the environmental complexity. This is mostly related with the diversity for addressing different types of customers. One of the managers explained that they formed local partnerships in each of their foreign operations, in order to understand the needs of the different customers:

“Customer satisfaction is very important. We are the market leader in Turkey, but the conditions of domestic and foreign competition are very different. There exists more competition in foreign countries since innovativeness in foreign countries is much more than Turkey. For example, there are more than 100 varieties of our product in Russia. It is like fashion, more activities should be undertaken in order to gain customers, you should be very active. In order to understand and respond to the foreign customers, we engaged in local marketing partnerships”.

The manager of the other company mentioned that in order to increase their product variety, they have a licensing agreement with a German company. He explained the reason behind, as:

“Diversity increased rapidly. There are fashion colors and designs of each year; we follow this like a draper. Our customers work with furnishers and architects who produce concept products. These plunge us into production which we should compulsorily adapt”.

#### 4.3. *Strategies employed for Perceived Environmental Munificence and Scarcity*

Environmental munificence is perceived to be most important environmental dimension by most of the managers. The results are separated into two as perception of munificence and perception of scarcity in the environment. The managers perceiving munificence is less, whereas managers perceiving scarcity and generating their strategies accordingly compromise the highest percentage of the sample.

Both of the managers perceiving munificence in their environment explained that they developed growth strategies. Both of the companies are operating in non-manufacturing industries, one of the companies growth strategy was based on acquisition of other companies; whereas the other company undertook new investments and renovation of existing facilities. The managers stated that:

“Consumption in our industry increased when compared with last year. It was also announced that the privatization in the industry will start soon. By 2023, it is expected that the capacity will be more than doubled when compared to 2010. Taking these into consideration, we acquired a company and we continue our new investments”.

“There exists an increase in the number of customers; we expect this trend to continue because our foreign competitors were hit by the economic crisis. This trend became much more predictable in the last years. For this reason, we made new investments”.

On the other hand, among the managers who perceive environmental scarcity, three of them expressed that their strategies are based on contract manufacturing for foreign countries. Their opinions are expressed as:

“The competition intensified since our competitors want to increase their market share. We were affected from the crisis and learned how to manage a company without liquidity during economic crisis, and we use our remaining capacity to produce for our foreign contractors”.

“The picture is clear; where we are going. There are some realities. The competitors affect us in many ways. They say that, the money is colorless. I believe in this. We produce for our strategic partners who are producer companies in Europe. Both of their end-products and components are produced by our company”.

“There exists important competition within this industry between existing companies. Besides the number of potential competitors is also increasing. Therefore, we undertake outsourcing activities of some foreign companies”.

Additionally, two of the companies that perceive scarcity for their domestic activities, developed an expansion strategy to foreign markets via exporting activities. In order to export their products, both of the companies obtained quality certificates necessary for sales in each foreign market. The managers’ perceptions are stated as:

“All of the opportunities are in foreign countries. The uncertainty in Turkey is much more than the uncertainty in the world. That is why we expand worldwide. European markets are difficult to enter. For us, African, Far-Eastern markets are more powerful”. “Our industry is stabilized in all around the world. New entrants are very rare and current actors do not leave the industry due to investment costs. All of the producers are working with an approximate capacity of 60%. We are an exporter company, we export 80% of our production. It became much more difficult to sell to foreign markets since different countries require different standards”.

On the other hand, three of the companies employed retrenchment strategies. Two of them applied divestment strategies, one of them sold some part of its activities to third parties and the other sold its shares; the third organization pursued a turnaround strategy by which it withdrew from one of its market. All of the managers emphasized the intensity of competition. Since their industries are characterized by decrease in market size, they are more affected. These managers mentioned that:

“Our competitors affect us in many ways and besides there is an increase in the number of potential competitors. The effect related with competitors increases day by day”.

“The effect of competitors is felt in many areas. The number of competitors is not increasing but their pressure and power are. We should have created new business opportunities, but could not. One of our partners sold its shares at the end”.

“Our main competitors have a certain strategy. The others compete much aggressive. They attack our lowest segment. We can not compete with them with our costs that occur due to our institutional structure. At the end, we withdrew from the lowest segment and decrease our capacity”.

One of the companies merged with a local company, in order to expand its shares. The manager states that:

“The dimensions of competition changed more, it became much intense. Competition with our main competitors is at the highest level. Our main competitors, especially multinational ones, have more activities in terms of new acquisitions, new investments. In order not to fall behind in the competition, we agreed to merge with a local company”.

The final strategy that a company applied in order to decrease the effects of scarcity in the environment is to employ a foreign director as a board member. Board of directors are selected for acquisition of important resources (Pfeffer and Salancik, 1978). In relation to this strategy, the company manager indicates that:

“Our competitors are many; they have effect on our company in many ways. In order to forecast the trend in the industry, we should benchmark with other countries. What happens abroad, occur in Turkey after some time. In order to follow the developments, we have a foreign director in our board”.

All of the findings of the research are summarized in Table-3.

**Table 3:** Strategies that are generated for Perceived Environmental Uncertainty

<b>Environmental Dimensions</b>	<b>Strategies</b>	<b>Frequency</b>
<b>Dynamism</b>	Joint-Venture	2
<b>Complexity</b>	Local Partnership	1
	Licensing	1
<b>Munificence</b>	Acquisition	1
	Renovation	1
<b>Scarcity</b>	Retrenchment	3
	Divestment	2
	Turnaround	1
	Contract Manufacturing	3
	Exporting	2

Merger	1
Foreign Board member	1
<b>Total</b>	<b>16</b>



## 5. Conclusion and Discussion

With this research, it was found out that many managers develop their strategies based on perceived environmental scarcity. Among the various strategies employed by the managers perceiving environmental uncertainty, the most common types are either retrenchment or contract-manufacturing for foreign companies. In addition, the findings of the research indicate that companies operating in munificent environments pursue growth strategies. The growth strategies are based on concentration in organizations' current services in one industry. On the other hand, the research findings demonstrate that managers perceiving dynamism and complexity in their organizational environments tend to follow strategies based on alliances with other companies.

According to Porter (1990), strategic alliances are long-term agreements between firms that go beyond normal market transactions but fall short of merger. Forms include joint ventures, licenses, long-term supply agreements, and other kinds of inter-firm relationships (Porter, 1990). In the literature, there exist many definitions for strategic alliances. Despite the numerous explanations; collaboration of two or more parties and mutually beneficial strategic ends (Gulati, 1995: 619; Gulati, 1998; Elmuti and Kathawala, 2001:205; Ireland et al, 2002: 413) are the similarities between the definitions.

Companies form strategic alliances in order to share costs and risks or acquire resources. Strategic alliances are important for access to important assets (Gulati, 1995; Eisenhardt and Schoonhoven, 1996). Managers that perceive dynamism in their organizational environment indicate technological know-how and brand recognition as important assets which they had accessed through their joint-venture partnerships. On the other hand, through strategic alliances, a company can adapt itself so as to cope in turbulent environments therefore blocking competition (Koza and Lewin, 2000). Managers perceiving complexity in their organizational environments mention that they gained competitive advantage through their partnerships.

Within this frame, it is concluded that companies form strategic alliances in either complex or dynamic environments. Since the resources are abundant in munificent environments the primary objective is not resource acquisition and therefore organizations operating in such environments will not tend to form strategic alliances. Additionally, organizations' operating in scarce environments primary concern is to increase their efficiency by eliminating unprofitable parts and reorganizing organizations' products and markets. For this reason, organizations operating in munificent and scarce environments do not concern to form strategic alliances.

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