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RESEARCH ARTICLE

Investigation of the Mediating Effect of Strategic Posture on the Relationship between Environmental Conditions and Firm Performance on the Logistics Sector

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Abstract
The effects of environmental conditions on firm performance are investigated in this study. Within the scope of the research, the relationships between the strategic posture and the performance of logistics companies in varying environmental conditions were examined. During this study, the interaction between variables was also investigated by predicting the presence of the mediating effect of strategic posture. In this context, a research model and related research hypotheses were developed. The created research model was comprised of the three-dimension of environmental conditions developed by Dess and Beard (1984), six dimensions of strategic stance developed by Venkatraman (1989), and firm performance variables. A survey related to the research was conducted with 264 people working in managerial positions in 218 logistics companies operating within the scope of the research to test the hypotheses in the research model. The analysis of the obtained data was performed by the Structural Equation Modeling (SEM) method utilizing the SPSS and AMOS software program. According to the analysis results, it was determined that the strategic posture variable has a full mediating effect between environmental conditions and firm performance. As a result, by enabling logistics companies to realize their strategic posture features, information was provided to guide them on how to improve their performance in changing environmental conditions.

Keywords

Environmental Conditions, Strategic Posture, Firm Performance, Logistics Companies

Introduction

In the competitive world market, it is very important for organizations to gain an advantage and maintain this advantage by being environmentally sensitive. Recently, having a strategic posture is considered as one of the main elements that will allow organizations to retain their advantage and affect their success. Also, since environment and economic conditions are changeable, organizations should refer to points that will raise awareness, such as making technological transformation in work to increase their performance, mastering the corporate

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mindset, ensuring diversity of the senior management team, and identifying competitors in the intensity of competition. The studies carried out show that the most effective way to raise awareness is for an organization to have a strategic posture. Another issue to focus on is to have managers who will take the necessary measures and make an effort in order for organizations to increase their performances. For organizations to meet the expectations of their target audiences and to continue their process in a globally competitive environment, it is expected of the managers and stakeholders to strive to improve the performance of the company and be in a holistic consensus. Ensuring integrity in organizations is related to the functioning of management. In this context, it is thought that managers who work in organizations in "variable-uncertain-risky" environmental conditions such as the logistics sector will have a great impact and role in the strategic posture of the company.

In business environments where change is rapid, such as in the logistics sector, organizations are required to renew themselves in line with the changing conditions due to fundamental changes such as dynamic changes in the product and service demands of the customers, technological developments, dramatic change in the product life cycle, etc. The variable environmental conditions, the disappearance of market borders, the increase in the levels of the competitive market day by day, and the steady rise of expectations of customers from the product and services require the organizations to have a global vision. All of these changes are closely related to the logistics sector with an ever-dizzying pace of change.

For organizations to be responsive to environmental changes, they must have a more flexible structure in an environment of increasing uncertainty and intense competition (Elbanna et al., 2015). A flexible structure refers to organizations which are sensitive to the conditions of their environment. In the study conducted by Dess and Beard (1984), the environmental uncertainties, which are defined as environmental conditions, are expressed with the dimensions of "environmental munificence," "environmental dynamism," and "environmental complexity" that aims at being sensitive to changing environmental conditions. These three dimensions were also determined as independent variables in this study.

The environmental conditions constitute the independent variable of this research. However, for organizations to improve their performances, it is not enough just to be sensitive to and adapt to the changing environment, but they are also required to have a strategic posture. With the effects of hyper-competition and rapid transformation, organizations recognize the need to make strategic choices and adapt their strategic posture according to the effects of the environment. The sensitivity of an organization to its environment and its adaptability to environmental conditions are indications of the presence of a strategy followed by the organization. Developed and named by Venkatraman (1989), six dimensions, "proactiveness," "aggressiveness," "defensiveness," "futurity," "riskiness," and "analysis" define the strategic posture. These six dimensions were determined as mediating variables in this study. Strategic posture is important to provide in allocating firms specific resources and calibrating activi-

ties to fit these resources to accomplish superior performance (Guo et al., 2020; Yuan et al., 2021). For this reason, the strategy typology determined by Venkatraman (1989) was found useful for the study.

There are findings which indicate that the conditions of the environment in which organizations continue their activities or intend to continue their activities, the narrowness or extent of the market fields, the strategy(s) they have implemented to compete with their competitors and gain lasting advantages, and the strategic posture(s) they have will affect the operational, logistic, financial, and market performance of organizations. When the studies conducted on this subject are examined, the scales we come across are the organizational performance scale developed by Watkins and Marsick (1993-1997), the operational performance scale proposed by Hayes and Wheelwright (1984) and developed by González-Benito (2005), and the logistics performance scale proposed by Stank et al. and developed by Ellinger et al. (2000). These performance scales were determined as the dependent variables of the study. Even though there are a large number of performance measures for organizations, overall performance measurement has financial, environmental, and operational dimensions (Srinivasan et al., 2020). Financial indicators are related to the achievement of an organization's economic goals, the growth, profit margin, and profitability of its sales (Jamali, 2020). Operational indicators are product and process-related practices and explain what and how things go on in organizations (Wong et al., 2011; Liu et al., 2021). Logistic indicators are related to the efficiency, effectiveness, and degree of differentiation for fulfilling the logistic activities of an organization (Ballou, 2004; Nakano, 2015).

The main aim of the study is to establish the relationship between environmental conditions and firm performance, which was studied conceptually and empirically in the business and strategic management literature, as well as, to investigate the possible mediating effect of the strategic posture variable in this relationship, and to determine the effect of strategic posture on the tendencies of firms to improve their performance. In line with this aim, in this study, the kind of strategic posture organizations of the logistics sector should have in the face of open, dynamic, and complex environmental conditions as a result of intense competition in the global world market was investigated. Furthermore, it was tried to determine what the strategic posture of organizations was in response to competition, the results of the adopted strategic posture, and to what extent the conditions of the environment in which the organizations operate their activities and the strategic posture they hold affect the performance of the company.

Literature Review

Environmental conditions : As a result of the literature review, it was observed that environmental uncertainty is an important issue that shapes the lives of organizations. The

environment is not fixed (Child, 1972; Dess and Beard, 1984) nor is it a homogenous entity but is composed of multifaceted combinations (Bocken and Geradts, 2020). Therefore, the changeability of the environment causes some uncertainties, and the resulting uncertainties can have unexpected consequences for organizations (Pfeffer and Salancik, 1978; Cannella et al. 2008; Freudenreich et al., 2020). Thus, the environment can be considered as a corporate ecosystem in which new organizations emerge, develop, compete, and end their lives. For this reason, organizations should be able to improve their strategic flexibility to take advantage of opportunities in changing environments (Jiang et al., 2020). Thus, with the development of strategic flexibility, performance changes depending on environmental conditions (Miles and Covin, 2000; Miles et al. 2000; Desarbo et al. 2005; Hettich and Kreutzer, 2021). Dess and Beard (1984) indicated that the environment has various effects on different organizational characteristics.

In our study, the dimensions of environmental uncertainty of "munificence, dynamism, and complexity," as defined by Dess and Beard (1984), are addressed. Munificence is defined as the abundance or scarcity of resources and market potential in the environment (Elbanna and Child, 2007; García-Sánchez et al., 2020). Dynamism is defined as change that is difficult to predict and can result from market changes or technology (Goll and Rasheed, 2004; Yuan et al., 2021). Complexity is defined as the heterogeneity of and range of an organization's activities and is measured by geographical dispersion and market structure (Sharfman and Dean, 1991; Bradley et al., 2011; Seo et al., 2021; Du and Kim, 2021). These dimensions are focused on investigating the relationship between the environment's variable structure and the organization's development and performance. In terms of strategy, these dimensions, as determined by Dess and Beard (1984), are considered to be the most critical dimensions of the environment (Keats and Hitt, 1988).

Strategic posture : The theoretical literature contains many different definitions and conceptualizations of strategy. The concept of strategy is defined as activities that will harmonize the internal resources and capabilities of institutions with the opportunities and threats of the external environment (Hofer and Schendel, 1978; Bolland, 2020). Researchers also stated that the appropriateness of the strategy of a firm can be defined in terms of its compliance with the environmental or organizational conditions they face (Bolland, 2020; Bunger et al., 2021). A strategy is expressed as the process of adapting to changes in the environment of an organization (Chakravarthy 1982; Yang and Gan, 2020) and the state of reacting to environmental change (Snow and Hambrick, 1980; Yu et al. 2016; Yuan et al., 2020). The requirement of reacting to environmental change evokes the necessity for organizations to make strategic choices. Strategic choice typically includes not only the creation of structural forms but also the manipulation of environmental characteristics and the selection of relevant performance standards (Child, 1972; Hanelt et al., 2020). Any organization choosing to adopt a strategy(s) is an indication that the organization has a strategic posture. As can be seen, many

researchers in the area of strategic management have stressed the importance of values and attitudes in the strategy formulation process (Glueck, 1980; Tumidei et al. 2020). Strategic posture is defined as the general competitive orientation of a firm (Covin and Slevin, 1989; Kaufmann et al., 2020). Strategic posture refers to the combination of competitive options that the organization uses in their industry (Dess and Davis, 1984; Bunger et al., 2021). The term strategic posture is a fundamental principle that permeates the disciplinary orientations of both strategic management and organizational theories and also constitutes the critical point of the coupling between the environmental context and organizational capabilities and resources (Scott, 1987). Strategic posture describes the mode of response of an organization's key decision makers towards social demands (Waddock and Graves, 1997; Haessler, 2020). Strategic posture refers to managers' attitudes towards environmental conditions (Shwairef et al., 2021). Ullmann (1985) categorized strategic posture into active and passive postures. Where there is an active strategic posture, the manager and manager team have a progressive attitude, actively searching to satisfy stakeholders' claims, and consequently pursue both a competitive advantage and business opportunism. In other words, the managers' attitudes demonstrate a proactive pattern of behavior. On another hand, when a manager team adopts a passive strategic posture, a conservative attitude gives rise to greater risk aversion, a tendency to maintain the status quo, and a general reactive pattern of behavior (Crant, 2000; Miller and Friesen, 1983; Du and Kim, 2021). Thus, it is expected that those companies with an active strategic posture are more likely to disclose more social and environmental information (Ullmann 1985; Du and Kim, 2021).

When determining their strategic posture, organizations should have a good understanding of the relationships between resources, capabilities, competitive advantage and performance, and, specifically, the mechanisms of how competitive advantage can travel and sustain over time (Grant, 1991; Mintzberg et al., 2020). The types of strategy, which are determined by strategy management researchers, largely depend on the aims of the organization (Galbraith and Schendel, 1983; Tan, 2002; Tan and Tan, 2005; Lundgren et al., 2021). The number of different identified strategy types tends to vary widely. The strategy types differ radically in their scope, and the dimensions were chosen to define these strategies. In our study, the use of six strategic postures determined by Venkatraman (1989) was found useful. Proactive strategy is about seeking new opportunities and experimentation of responses to changing environments (Venkatraman, 1989; Araujo and Gava, 2012). Aggressive strategy focuses on resource allocation to improve an organization's market position compared to its competitors. Defensive strategy focuses on maintaining the current market position rather than increasing market share (Legionosuko et al., 2019). Future strategy is about long versus short-term decisions (Venkatraman, 1989; Sabherwal et al. 2019). Risky strategy focuses on entering new unknown markets with intensive resources (Lumpking and Dess, 2001). Analysis strategy focuses on basic problem solving to understand the internal and external environments of the

organization (Lumpking and Dess, 2001). These strategic dimensions, defined by Venkatraman (1989), contribute to determining the strategic posture of the service sector (Zuckerman, 2016; Wright, 2020).

Firm performance : Organizations want to carry out performance evaluations to assess their current conditions and to predict their future situations. Measuring firm performance is not an easy construct. It can be even more difficult, especially when what needs to be measured continues to change (Hubbard, 2009). Strategies have firm-specific requirements and must be properly managed by organizations to adapt to changing contextual aspects and achieve higher performance (Kelly and Flores, 2002; Perez-Franco and Phadnis, 2018). On the other hand, the lack of clear strategic positioning negatively impacts organizational performance (Nakano, 2015). In other words, strategic management informs the relationship between the environment and the performance. Therefore, organizations should be able to improve their strategic flexibility to take advantage of opportunities in changing environments (Mason-Jones et al., 2000). As a result, parallel to the literature (Adner et al., 2014; Xie et al., 2018; Arun and Yıldırım Özmutlu, 2021), effective strategy can increase overall organizational performance. In our research, the firm performance is handled in the form of three components : financial and market, logistic and operational performances. The performance of companies in the Marmara Region in Turkey were measured in this study.

Today, firms want to improve their performance results every day. This study focused on answering the question of what can be the “important complements” that are effective in the high performance of companies while considering the changeability of economic and environmental conditions. As important complements, “environmental conditions and strategic posture” were discussed here. It was aimed to reveal to the firms included in our research that it was possible for them to improve their performance levels by making them realize the importance of strategic choices that fit their environmental impacts and capabilities. Within the framework of information provided by the researchers, the environmental conditions and dimensions by Dess and Beard (1984), which are still widely used in studies today, the structure and dimensions that Venkatraman (1989) conceptualized as strategic posture, and the components of firm performance are given in Table 1.

Research Method

The mediating role of strategic posture in the impact of environmental conditions on firm performance was examined through the correlational research design, which is a quantitative research method. According to this method, a study is conducted on the whole of the universe or a group, sample, or sample taken from it in order to make a general judgment about the universe (Fink, 2016). Correlational studies aim to reveal the existence of a relationship between the variables subject to examination (Gliner et al., 2017). In addition, a variance-based

Table 1
The Dimensions of Concepts Related to the Topic and the Academic Contributors

Dimensions		Definition	Academic Contributors
Environmental Conditions	***Munificence***	It refers to the environment's capacity to support organizational growth based on the availability of critical resources.	Aldrich (1979), Castrogiovanni (1991), Child (1972), Cyert and March (1963), Dess and Beard (1984), Goll and Rasheed (1997, 2004), Starbuck (1976-1983), Yasai-Ardekani (1989)
	Dynamism	It expresses the speed, severity, and unpredictability of environmental change.	Aldrich (1979), Child (1972), D'Aveni (1994), Dess and Beard (1984), Emery and Trist (1965), Goll and Rasheed (1997-2004), Jurkovich (1974), Miles et al. (1974), Starbuck (1983)
	Complexity	It expresses the number, diversity, and degree of dependence among environmental factors.	Aldrich (1979), Castrogiovanni (1991-2002), Child (1972), Dess and Beard (1984), Duncan (1972), Huber and Daft (1987), Miller and Friesen (1983), Starbuck (1976), Tung (1979)
Strategic Posture	***Aggressive***	It is the posture an organization adopts in allocating resources to improve its market position compared to its competitors.	Buzzell et al. (1975), Hofer and Schendel (1978), Venkatraman, (1989), Lumpkin and Dess (2001)
	Analysis	It is the basic problem-solving approach to understanding both the internal and external environments of an organization.	Miles and Snow (1978), Miller and Friesen (1984), Grant and King, (1982), Venkatraman (1989)
	Defensive	It is the posture which aims to maintain the organization's current market position instead of improving its market position or increasing its market share.	Morgan and Strong (1998), Venkatraman (1989), Kelly and Storey (2000)
	Proactive	It is an organization's behavior as a result of experiences gained with its involvement in emerging industries, constant search for market opportunities, and responses to changing environmental conditions.	Miles and Snow (1978), Miller and Friesen (1984), Venkatraman (1989), Lumking and Dess (1996), Slater and Narver (1993), Lumking and Dess (2001)
	Future	It is the posture of an organization that aims to be prepared for future environmental conditions and to turn the opportunities that may arise to their advantage.	Venkatraman (1989), Narver and Slater (1990), Piercy and Morgan (1994), Ganesan (1994), Jaworski and Kohli (1996)
	Riskiness	It is the posture of an organization being inclined to take bold steps, such as entering new unknown markets, committing a large portion of resources to initiatives with uncertain results.	Miller and Friesen (1984), Dickson and GigLerano (1986), March and Shapira (1987), Venkatraman (1989), Covin and Slevin (1989), Morgan and Strong (1998), Lumpking and Dess (2001)

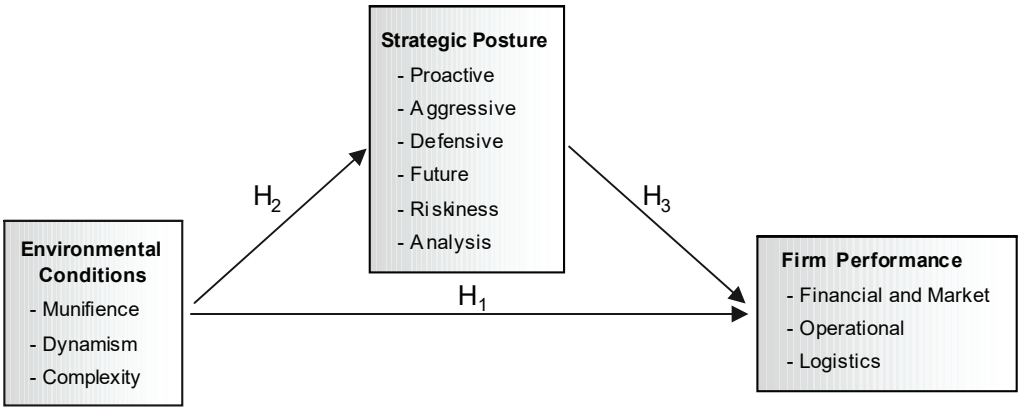
Table 1
The Dimensions of Concepts Related to the Topic and the Academic Contributors

Dimensions		Definition	Academic Contributors
Firm Performance	***Financial and Market***	It is the fulfillment of an organization's economic goals, the growth of its sales, and its profitability.	Drucker (1954), Hofer (1983), Wolff and Pett (2006), Venkatraman and Ramanujam (1987), Dess and Robinson (1984), Robinson (1995), Murphy et al. (1996)
	Operational	It expresses how an organization performs on non-financial matters.	Dess and Robinson (1984), Kaplan (1984), Venkatraman and Ramanujam (1986), Hayes and Wheelwright (1984), González-Benito and González-Benito (2005), Sodhi (2015)
	Logistics	It indicates an organization's degree of efficiency, effectiveness, and differentiation associated with the fulfillment of its logistics activities.	Perreault and Russ (1976), Stock and Lambert (1992), Cooper et al. (1997), Mentzer and Firman (1994), Bowersox and Closs (1996), Stank et al. (1999); Ellinger et al. (2000), Bowersox et al. (2002), Ballou (2004)

Structural Equation Modelling (SEM) method was used as the basic statistical method to test the hypotheses in the research. In this method, which requires the use of a number of statistical techniques, the effect of independent variables on dependent variables can be calculated simultaneously (Hair et al., 2019). In the study, this feature of the SEM method was used in order to investigate the relationships between the variables.

The Research Model and Hypotheses

In this study, it was aimed to establish a model that will measure how environmental conditions affect firm performance and the presence of the mediating effect of strategic posture. In this regard, hypotheses were developed based on the conceptual structure and subdimensions of the study. Hence, a "research model" which shows the relationship between the developed hypotheses was created. In the model, there are four hypotheses and a series of sub-hypotheses that will be attempted to be verified. The relations between the main structures and also the relations between the dimensions were measured in the research. The research model and hypothesis are shown in Figure 1.



Mediator Effect; H_4: Environmental Conditions → Strategic Posture → Firm Performance

Figure 1. The research model

H_1: There is a significant relationship between environmental conditions and firm performance.

$H_{1a\text{-}c}$: Environmental condition dimensions (munificence, dynamism and complexity) have a significant impact on firm performance.

H_2: There is a significant relationship between environmental conditions and strategic posture.

H_{2a-c}: Environmental condition dimensions (munificence, dynamism and complexity) have a significant impact on strategic posture dimensions (proactiveness, aggressiveness, defensiveness, futurity, riskiness and analysis).

H_3: There is a significant relationship between strategic posture and firm performance.

H_{3a-f}: Strategic posture dimensions (proactiveness, aggressiveness, defensiveness, futurity, riskiness and analysis) have a significant impact on firm performance.

H_4: The strategic posture mediator has a variable effect on the relationship between environmental conditions and firm performance.

H_{4a-c}: Strategic posture dimensions mediates the relationship between environmental conditions and firm performance.

Sample and Data Collection

The research population was comprised of 462 people working in managerial positions in logistics organizations who are registered either with the International Transporters Association (ITA) or with the International Transport and Logistics Service Providers Association (ITLSPA) in the Marmara Region of Turkey. The reason for choosing the Marmara Region is that the region constitutes the heart of Turkey's logistics industry. It is possible to see the Marmara region as Turkey's logistics base. Looking at the regional developments in Turkey, the Marmara Region is not only an industrial region but also a region where the importance of logistics services gains value. The sample of the study consisted of 264 managers selected among these individuals by random sampling method. In the study, the sampling table and calculations created by Israel (Israel, 2013) were used to determine the sample size. According to the calculation tool related to the sample size at the 95% confidence interval and ±5% margin of error, it was calculated that the normal size assumption was supported if our required sample size was more than 217 (Israel, 2013). Thus, out of 750 questionnaires distributed, 279 were returned; the sample size was supported for normal distribution with a response rate of 37.2%, and 264 data containing complete information were found suitable for analysis.

This study is a quantitative one, and data was collected from logistics firm managers through face-to-face interviews between September 2018 and January 2019. Each firm within the scope of the research was visited with two surveys. Although the logistics companies in Istanbul were visited with two surveys, one manager from each company filled in the survey due to the intensity of the workload. In the provinces other than Istanbul, as many as two possible surveys forms were filled by people working in managerial positions. In the first part of the research questionnaire, 13 questions are asked about the information of the participant and the firm. In the second part of the questionnaire, 60 questions were about the items of the variables. All constructs were measured using 5-point Likert scales ranging from "Strongly Disagree" (1) to "Strongly Agree" (5) and were used to evaluate environmental conditions,

strategic posture, and firm performance. All scale items used within the scope of the study were adapted by taking into account the terminology suitable for the logistics sector.

In the analysis of the data collected in the study, SSPS and AMOS software programs were utilized. Firstly, the analyses containing the information of the firm and the firm managers, secondly, the analyses for the structural validity of scales for each variable with Explanatory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) methods, and thirdly, the analyses displaying the relationships between structures were performed using the SEM method.

Scale

The environmental uncertainty scale (α) .81 developed by Dess and Beard (1984) consists of munificence (6 items), dynamism (5 items), and complexity (6 items) dimensions. The following statements are measured in the scale of environmental uncertainty variable. The environmental munificence dimension is about the availability of investment and marketing opportunities, abundant (scarce) resources, and increasing investments. The environmental dynamism dimension is about rapid change of the actions of rival companies, radical technological changes, the change of demand, and the change of consumer preferences. The environmental complexity dimension is about diversity of the number of competitors, the number of customers, supplies, and the amount of equipment.

The strategic posture scale (α) .86 developed by Venkatraman (1989) consists of proactive (5 items), aggressive (4 items), defense (5 items), future (5 items), riskiness (4 items), and analysis (5 items) dimensions. The following statements are measured in the scale of strategic posture variable. The aggressive strategy dimension is about regulating the competitive price, and making price reductions. The defense strategy dimension is about improving the quality of existing services. The future strategy dimension is about being future-oriented rather than for today and providing information about future customer needs. The analysis strategy dimension includes information that focuses on innovating and making the necessary decisions in order to be successful. The risk strategy dimension is about acting with caution and supporting only service activities that are considered to be successful. The proactive strategy dimension is about being a pioneer in developing new services.

The operational performance scale (α) .80 developed by Hayes and Wheelwright (1984) and later contributed by González-Benito and González-Benito (2005) consists of (6 items). The questions in the operational performance scale include statements to measure situations such as providing timely delivery, acting with a high service quality understanding, developing new services, and providing reliability.

The logistics performance scale (α) .79 developed by Stank et al. (1999) and later contributed by Ellinger et al. (2000) consists of (5 items). The questions in the logistics performan-

ce scale include statements to measure situations such as adopting the reliability of delivery dates, informing customers about delivery times, and maintaining speed.

The financial and market performance scale (α) .92 developed by Ellinger et al. (2002) consists of (12 items). In the financial and market performance scale, statements include questions to measure situations such as return on investments, customer satisfaction level, market share increase, net profitability, net income, expenditures on technology and information processing, the average productivity per employee, and the number of qualified employees.

Analyses and Results

The Demographic Findings of Businesses and Managers in the Research

First, the basic information of the firms and firm managers participating in the research was examined. Descriptive statistical analyses of the 218 firms included in the study and a total of 264 participants working as managers in these firms were compiled. According to the analysis results, it was observed that most of the logistics firms participating in the study and registered with ITA and ITLSPA in the Marmara Region operate in Istanbul (77%). Since there are no firms registered with ITA and ITLSPA in Bilecik and Balıkesir provinces, no findings could be obtained. According to these results, it was observed that the establishment of logistics firms participating in the research in the Marmara Region increased steadily, especially after the 1980s (38%) and the establishment of such firms continued after 2000 (40%). According to the findings obtained, when the number of people working in the logistics firm within the research was examined, it was observed that approximately half of the logistics firms (49%) are large-scale companies. When the educational fields of the managers working in these firms were examined, it was observed that people working as managers in the logistics firms participating in the study within the Marmara Region had largely received logistics education and specializations (46%). When the status of the managers working in the logistics companies participating in the study was examined, it was observed that in these logistics firms in the Marmara Region, communication was established with middle-level managers (44%) and then top-level managers (32%) rather than managers.

Considering the age range distribution of the managers, it was found that the proportion of those between the ages of 26-35 was 50%, and the proportion of those between the ages of 36-45 was 34.5%. As a result of the findings obtained, it was determined that the managers working in the logistics companies within the aim of the research in the Marmara Region adopted a dynamic age range as well as having certain experience. Considering the gender distribution of the managers, it was determined that the proportion of men was 84.5% and that of women was 15.5%. Because of the findings, it is thought that heavy workload and heavy work practices may be among the reasons for preferring male managers in logistics companies within

the scope of the research in the Marmara Region. As can be seen, it is thought that the young, experienced, and dynamic people working in managerial positions in logistics companies in the Marmara Region within the scope of the research are considered to be the primary choice.

Validity, Reliability and Correlation Analysis Results Regarding the Research Variables

First, the validity and dimensionality analyses of all scales were applied by the use of the SPSS software program to examine the skewness and kurtosis values of the variables, the descriptive analysis findings, the correlation between the variables, sampling adequacy, and the base values of the variables. Then, a factor analysis was applied to examine the EFA results. For each scale, the factorization matrix was created, and as in theory, it was determined that it had a factoring structure. Reliability tests were conducted to determine the reliability of the scales. In terms of measuring the value and significance of the scales used, the Cronbach's alpha values, as well as "Average Variance Extracted (AVE)" values and "Composite Reliability (CR)" values were calculated. In Table 2, the results of the reliability analysis of all scales are given. As seen in Table-2, the Cronbach-Alpha (α) (CR) and AVE values were calculated for each factor in the measurement model. A distribution is observed between the obtained (α) coefficient values (0.72 - 0.92). These values are above the acceptable limit (α = 0.70 - 0.80 and above) (Hair et al., 2019). (CR) coefficient values of 0.80 and above (Fornell and Larker, 1981) indicate that structural validity and reliability of the related variables were obtained. The facts that (AVE) value results obtained were 0.50 and above (Fornell and Larcker, 1981; Hair et al., 2019) reveal that the scales show convergent and divergent validity.

The correlation coefficients were evaluated by taking the mean of each variable of the scale among its own items to determine the structural validity with the sample data obtained. In Table 3, a correlation analysis was made by considering the basic sub-dimensions of the variables "Environmental Conditions" and "Strategic Posture" and the scales of the variables of the "Firm Performance" components to determine the structural validity of the scales. As seen in Table 3, at the [$P < 0.01$] significance level, it was observed that the interaction values between the variables are strong, and there is a statistically significant relationship.

The Confirmatory Factor Analysis Results Regarding the Research Variables

In this part of the study, to verify each scale used in the context of the data obtained, CFA was conducted using the AMOS statistical software program. In Table 4, the results of the CFA analysis for all scales are given. As seen in Table 4 below, analyses were conducted to determine the validity of the measurement model and the acceptable levels of compliance for the measurement model. As it can be observed from this, the CFA fit indices values for all scales show the compatibility of the model with the data. This shows that the variables in all scales describe the scale they belong to and that the factors in the scale are suitable for SEM.

Table 2
The Reliability Analysis of All Scales

Scales	*Number of Items*	Cronbach-Alpha *(α)*	CR	AVE	*Contributors to the Development of the Scale*
Environmental Conditions	**14**	**0,807**	**-**	**-**	
Dynamism	4	0.75	0.84	0.57	Dess and Beard (1984)
Munificence	4	0.76	0.84	0.58	
Complexity	6	0.81	0.86	0.51	
Strategic Posture	**24**	**0.86**	**-**	**-**	
Aggressive	3	0.85	0.89	0.75	
Defensive	4	0.72	0.82	0.55	
Future	4	0.73	0.83	0.55	Venkatraman (1989)
Analysis	5	0.83	0.88	0.59	
Riskiness	3	0.76	0.86	0.68	
Proactive	5	0.89	0.92	0.71	
Firm Performance	**22**	**0.92**	**-**	**-**	
Operational	5	0.80	0.86	0.56	Hayes and Wheelwright (1984); González-Benito (2005)
Logistics	5	0.79	0.86	0.55	Stank et al. (1999); Ellinger et al (2000)
Financial-Market	12	0.90	0.91	0.50	Watkins and Marsick (1993-1997); Ellinger et al. (2002)

Table 3
The Average, Standard Deviation and Correlation Coefficients of the Variables

Variables	**M**	**SD**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1.Dynamism	3.29	0.82	1											
2.Munificence	4.23	0.60	0.18**	1										
3.Complexity	4.18	0.57	0.19**	0.47**	1									
4.Aggressive	2.99	1.06				1								
5.Defensive	4.29	0.55				0.02	1							
6.Future	4.19	0.61				0.18**	0.40**	1						
7.Analysis	4.33	0.49				0.04	0.43**	0.49**	1					
8.Riskiness	3.81	0.68				0.17**	0.06	0.02	-0.04	1				
9.Proactive	4.24	0.63				0.10	0.38**	0.52**	0.64**	0.01	1			
10.Operational	4.25	0.55										1		
11.Logistics	4.50	0.47										0.54**	1	
12.Financial	4.09	0.52										0.61**	0.54**	1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed). Values without asterisk, p > 0.05 M: Mean SD: Standard Deviation

The CFA results of all scales used in our research were found to be suitable for using the structural equation modelling method.

The Structural Model

The models, which were tested with the CFA applied to environmental conditions, strategic posture, and firm performance scales to test the hypotheses and were found suitable,

Table 4
The Confirmatory Factor Analysis Results for All Scales

The Model Fit Criterion	***Definition***	***Good Fit (GF)***	***Acceptable Compliance (AC)***	***Environmental Conditions Scale CFA***		***Strategic Posture Scale CFA***		***Firm Performance Scale CFA***					
				Measured Value/Fit		*Measured Value/Fit*		*Operational Performance*		*Logistics Performance*		*Financial and Market Performance*	
								Measured Value/Fit		*Measured Value/Fit*			
				MV	*F*	*MV*	*F*	*MV*	*F*	*MV*	*F*	*MV*	*F*
χ2	Chi-Square	0≤χ2≤ 2df	2df<χ2≤3df	109.229	GF	376.076	GF	6.743	GF	4.245	GF	80.106	GF
CMIN/DF	***Chi-square/SD***	***0≤CMIN/DF≤2***	***2<CMIN/DF≤ 5***	***1.517***	***GF***	***1.628***	***GF***	***1.349***	***GF***	***1.415***	***GF***	***1.780***	***GF***
CFI	Comparative fit index	0.97≤CFI≤1.00	0.95≤CFI<0.97	0.965	AC	0.951	AC	0.995	GF	0.997	GF	0.974	GF
NFI	Normed fit index	0.97≤NFI≤1.00	0.95≤NFI<0.97	0.906	AC	0.878	AC	0.982	GF	0.989	GF	0.954	AC
GFI	Goodness of fit index	0.95≤GFI≤1.00	0.90≤GFI<0.95	0.946	AC	0.904	AC	0.990	GF	0.994	GF	0.953	GF
AGFI	Adjusted goodness of fit index	0.90≤AGFI≤1.00	0.85≤AGFI<0.90	0.921	GF	0.863	AC	0.969	GF	0.969	GF	0.918	GF
RMR	Mean squared error Square root	0≤RMR≤0.05	0.05<SRMR≤0.10	0.031	GF	0.048	GF	0.012	GF	0.007	GF	0.025	GF
RMSEA	The root mean square error of approximation	0≤RMSEA≤0.05	0.05<RMSEA≤0.08	0.044	GF	0.049	GF	0.036	GF	0.040	GF	0.054	GF

were gradually added to the measurement model using the SEM method. The relationships between variables were investigated separately in four models with the SEM method. The purpose of investigating in this way is to find the answers to the questions below gradually.

- In the first stage, do the independent variable environmental conditions affect the dependent variable firm performances?

- In the second stage, do the independent variable environmental conditions affect the mediating variable strategic posture?

- In the third stage, does the mediating variable strategic posture affect the dependent variable firm performance?

- In the fourth stage, by including the mediating variable strategic posture in the regression analysis together with the independent variable environmental conditions, what effect will the independent variable have on the dependent variable firm performance, and also, will the mediating variable have a significant effect on the dependent variable?

The SEM enables the modeling of the relationships between a large number of dependent and independent variables. This method is based entirely on theory and acknowledges the existence of a causality structure among the set of implicit variables (Hair et al., 2019). By utilizing the SEM method, the research hypotheses were tested with the analysis. In this way, the research model fit was investigated. In Figure 2, the path diagram shows the SEM model, which displays the mediating role of strategic posture in the relationship between the environmental conditions and firm performance. The results, which reveal that the measurement model is statistically significant and the model is fit, are given in Figure 2.

The Hypothesis Test Results

The final SEM model results displaying the relationships between variables within the context of the research model are shown in the final research model in Figure 3 and Table 5.

According to the SEM analysis results, in SEM Model-1, the direct effect of the independent variable environmental conditions on the dependent variable firm performance was examined. According to the analysis results, it was observed that the environmental conditions significantly affect firm performance (β; 0.762, $P < 0.01$). In SEM Model-2, the effect of the independent variable environmental conditions on the mediating variable strategic posture was examined. According to the results, it was observed that the environmental conditions significantly affect the strategic posture. (β; 0.761, $P < 0.01$). In SEM Model-3, the effect of the mediating variable strategic posture on the dependent variable firm performance was examined. According to the analysis results, it was observed that the strategic posture significantly affects firm performance (β; 0.915, $P < 0.001$).

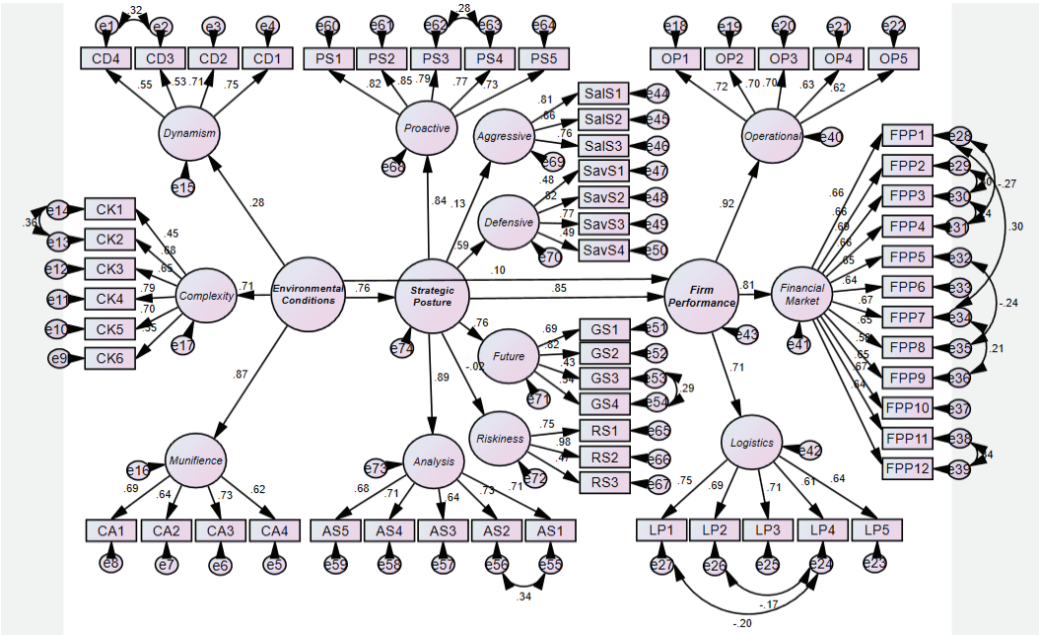


Figure 2. The mediating role of strategic posture in the relationship between the environmental conditions and firm performance SEM model.

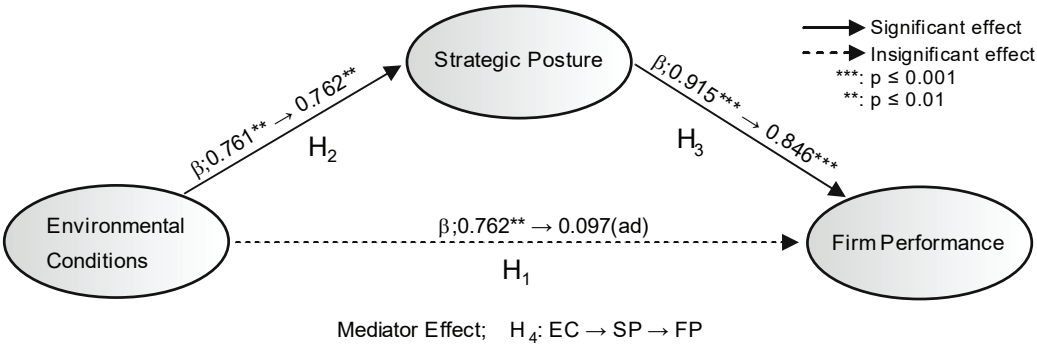


Figure 3. The final research model results

Additionally, in SEM Model-4, the relationship between the environmental conditions and firm performance which constitutes the H_4 assertion hypothesis was examined by including the mediating variable strategic posture. According to the direct effects from the analysis results, it was observed that the environmental conditions significantly affected the mediating variable strategic posture (β; 0.762, $P < 0.01$) and that the mediating variable strategic posture significantly affected the firm performance (β; 0.846, $P < 0.001$). According to the indirect effects from the SEM Model 4 analysis results, it was observed that the impact of the environmental conditions on firm performance (β; 0.097, $P > 0.05$) has disappeared as a result of the inclusion of the mediating variable strategic posture in the model. Analysis findings show

that the value of β decreased from 0.761 to 0.097 and the P value changed from significant to insignificant in the relationship between the environmental conditions and firm performance. To summarize, while the results of the SEM Model-1 analysis show that environmental conditions have a significant effect on firm performance, this effect disappears by including the mediating variable strategic posture in the SEM Model-4. It leads to the conclusion that due to the disappearance of the effect and the presence of an indirect effect, the strategic posture has a full mediating effect between the environmental conditions and firm performance.

According to the indirect analysis results of Table 5, environmental conditions have an impact on firm performance through the mediating effects of the strategic posture (β; 0.645, $P < 0.01$). Hence, the H_4 assertion hypothesis was supported by confirming the existence of the full mediating effect of the strategic posture variable. It has been determined that the impact of environmental conditions on firm performance is not direct but through the mediating effects of the strategic posture variable. The findings obtained show that the firms [1]within the scope of the research do not evaluate the environmental conditions separately during the strategic planning process; they evaluate the effects of the external environment very well and can transfer the effects of the environment to their strategy. The findings show that the firms evaluate the effects of the external environment very well during the strategic process, and by transferring this situation to strategy during the strategic direction phase and that adopting an environmentally friendly strategic posture has positive effects on the firm performance.

1 According to Bryson (2011-2018) strategic planning is the analysis of the duties and values of the firm, the analysis of the internal and external environment of the firm and the determination of strategic issues based on these analyzes and the creation of strategies, aims and plans for the issues. According to Schendel and Hofer (1979); Wolf and Floyd (2017), strategic planning is a series of logical steps which involves long-term aims, environmental analysis, strategic formulation, implementation and control. Eisenhardt and Sull (2001) stated that strategy planning processes, complex adaptive system models, and non-hierarchical systems are highly effective in predicting and guiding the adaptation to changing environmental conditions and embody the concept of simple rules.
As stated by the researchers, it was observed that the firms within the scope of the study evaluate their environmental effects during the strategic planning process. The findings of the study show that the environmental conditions were not excluded or disabled. As Grant (2003) stated in his study, the environmental analysis is a part of strategic planning. It is considered that environmental effects are included in the strategic planning process in a way that will adapt the firm.

Table 5
The Hypothesis Results

Relationships			***Path Value***				***Conclusion***
			Standardized ß				
Hypothesis	**Independent Variable**	**Dependent Variable**	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Supported/ Unsupported**
	Environmental Conditions	***Firm Performance***	***0.762*****				
H_1	Environmental Conditions	Financial and Market	0.663**				***Supported***
		Operational	0.629**				
		Logistics	0.566**				
H_{1a}	Munificence	Financial and Market	1.327***				***Supported***
		Operational	1.263***				
		Logistics	1.285***				
H_{1b}	Dynamism	Financial and Market	-0.169 (ad)				***Unsupported***
		Operational	-0.059 (ad)				
		Logistics	-0.146 (ad)				
H_{1c}	Complexity	Financial and Market	-0.544**				***Supported***
		Operational	-0.601**				
		Logistics	-0.721***				
	Environmental Conditions	***Strategic Posture***		***0.761*****			
H_2	Environmental Conditions	Proactive		0.635**			***Supported***
		Aggressive		0.077(ad)			
		Defensive		0.451*			
		Future		0.567**			
		Risk		-0.008(ad)			
		Analysis		0.694*			
H_{2a}	Munificence	Proactive		1.124***			***Partially Supported***
		Aggressive		-0.046(ad)			
		Defensive		0.907***			
		Future		1.183***			
		Risk		-0.113(ad)			
		Analysis		1.306***			
H_{2b}	Dynamism	Proactive		-0.130(ad)			***Unsupported***
		Aggressive		0.062(ad)			
		Defensive		-0.031(ad)			
		Future		-0.101(ad)			
		Risk		0.109(ad)			
		Analysis		-0.166(ad)			

Relationships			*Path Value* *Standardized* ß				*Conclusion*
Hypothesis	**Independent Variable**	**Dependent Variable**	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Supported/ Unsupported**
H2c	Complexity	Proactive		-0.385*			***Partially Supported***
		Aggressive		0.210(ad)			
		Defensive		-0.440**			
		Future		-0.606**			
		Risk		0.106(ad)			
		Analysis		-0.508**			
	Strategic Posture	***Firm Performance***			***0.915******		***Supported***
H3	Strategic Posture	Financial and Market			0.716**		***Partially Supported***
		Operational			0.881**		
		Logistics			0.690**		
H3a	Proactive	Financial and Market			-0.049(ad)		***Partially Supported***
		Operational			0.264*		
		Logistics			-0.367*		
H3b	Aggressive	Financial and Market			0.117*		***Unsupported***
		Operational			0.0145**		
		Logistics			0.030(ad)		
H3c	Defensive	Financial and Market			-0.084(ad)		***Unsupported***
		Operational			0.020(ad)		
		Logistics			-0.125(ad)		
H3d	Future	Financial and Market			0.060(ad)		***Unsupported***
		Operational			0.121(ad)		
		Logistics			0.174(ad)		
H3e	Risk	Financial and Market			-0.064(ad)		***Supported***
		Operational			-0.037(ad)		
		Logistics Performance			0.020(ad)		
H3f	Analysis	Financial and Market			0.789***		***Partially Supported***
		Operational			0.537***		
		Logistics			0.989***		

Relationships			*Path Value* — *Standardized* ß				*Conclusion*
Hypothesis	**Independent Variable**	**Dependent Variable**	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Supported/ Unsupported**
H_4 DIRECT EFFECTS							
	Environmental Conditions	***Firm Performance***			***0.097 (ad)***		***The coefficient decreased and became insignificant.***
	Environmental Conditions	**Strategic Posture**			**0.762****		
H_4	Environmental Conditions	Proactive			0.642**		
		Aggressive			0.099 (ad)		
		Defensive			0.448*		
		Future			0.576*		
		Risk			-0.018 (ad)		
		Analysis			0.681*		
	Strategic Posture	**Firm Performance**			**0.846*****		
	Strategic Posture	Financial and Market			0.688**		
		Operational			0.774**		
		Logistics			0.603*		

H_4 INDIRECT EFFECTS

Hypothesis	**Independent Variable**	**Mediator Variable**	**Dependent Variable**	**Model 1-2-3**	**Model 4**	**Supported/Unsupported**
H_4	**Environmental Conditions**	**Strategic Posture**	**Firm Performance**		**0.645****	**Supported-Full Mediator**
H_{4a}	Munificence	Strategic Posture Dimensions	Financial and Market		3.096**	**Supported-Full Mediator**
			Operational		3.827**	
			Logistics		4.701**	
H_{4b}	Dynamism	Strategic Posture Dimensions	Financial and Market		-0.360 (ad)	**Unsupported-No Mediation**
			Operational		-0.419 (ad)	
			Logistics		-0.539 (ad)	
H_{4c}	Complexity	Strategic Posture Dimensions	Financial and Market		-1.447*	**Supported-Full Mediator**
			Operational		-1.752 *	
			Logistics		-2.238*	

$\chi 2 = 2659.192$, df = 1679 $\chi 2/df = 1.584$, CFI = 0.866, NFI = 0.707, GFI = 0.761, AGFI = 0.740, RMR = 0.043, RMSEA = 0.047, AIC = Suitable. $R^2 = 0.851$.

Path coefficients are standardized. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ad; $p > 0.05$.

Conclusion and Recommendations

In their studies, Miller (1988), Dollinger, and Golden (1992) attribute the good performance of firms to the match between environment and strategy, which they call "important complements," and giving effective strategic responses. In this study, "environmental conditions and strategic posture" were discussed as important complements. With this study, the aim

is to help the logistics firms in the Marmara Region participating in this research to determine the environmental conditions, to emphasize the importance of strategic choices, and to contribute to the determination of the strategic posture of the firms according to their environment. Hence, within the scope of this research, it was emphasized that in environments with the high-speed change, the logistics firms should have a strategic posture to improve their performance indicators.

The results show that the direct impact of environmental conditions on firm performance disappears due to the indirect effect of the strategic posture (full mediator) and that the strategic posture has a strong effect on firm performance. This reveals that within the scope of the research, the logistics firms have successfully transferred their environmental effects to strategy and have a significant impact on performance by adopting the strategic posture that suits the environmental effects. This shows that firms can obtain higher performance indicators, especially *by choosing "analysis, proactive, and aggressive"* strategies and that having a strategic posture is important in raising their performance criteria. It was observed that risk-taking, defensive, and future strategies tend to have a negative effect due to the fact that their effects on firm performance, statistically, significant findings could not be obtained. If the managers in the logistics service sector choose these strategies, there may be poor performance, downsizing, loss of customers, or loss of market, so they should avoid choosing these strategies (Sabherwal et al., 2019).

The results of this study show that the firms within the scope of the research do not evaluate the environmental conditions separately and evaluate the effects of the external environment during the strategic planning process. It displays that firms create positive effects on performance by successfully transferring the effects of the environment to strategy and adopting an appropriate strategic posture that is sensitive to the environment. The presence of the full mediating relationship of the strategic posture does not mean that it eliminates environmental conditions. On the contrary, it shows that the firms within the context of the research can evaluate the environmental conditions during the strategic planning process and determine the strategic posture suitable for environmental effects and reflect their effects on the performance.

To summarize, from the hypotheses developed by verifying the research model empirically, only the hypotheses that belong to environmental dynamism and $H_{3b\text{-}c\text{-}d}$ were not supported, and all other hypotheses were partially or fully supported. It is concluded that environmental dynamism, which is one of the dimensions of the environmental condition, does not significantly affect the strategic posture or the firm performance in a statistically significant way. The literature supports these findings. The literature shows that while the performance of some of the firms operating in the medium of environmental dynamism is positively affected, the performance of some of the firms is negatively affected and that there are

no effects on the performance indicators of some of the firms. It shows that the environmental dynamism conditions have a positive effect, especially on the performance of the production firms and small-scale firms. It is among the literature findings that the effects of environmental dynamism conditions have less impact on performance in environments with a lot of strategic diversity. As a result, it was observed that the strategic posture has significant effects on firm performance criteria. Strategic posture is a significant determinant of performance.

In the strategic management literature, an organization's strategy must be compatible with its internal and external environments to achieve the best outcomes (Lee, 2002; Zimmermann et al., 2020). Therefore, especially under uncertain environmental conditions, alternative scenarios should be prepared and strategic choices should be made in accordance with environmental effects. Therefore, managers of logistics firms should focus on selective narration of the environment. In addition, managers should know the environment of their companies and be sensitive to it. Obviously, managers are recommended to consider the effects of all environmental conditions and make strategic choices appropriate to these effects. The ability of the firm's strategy to create a bond of belonging between employees, sub-units, and environmental conditions is effective on the performance of firms.

Looking to the future, the environment is a heterogeneous entity and composed of versatile combinations. Our findings show that more research is needed on the different environmental aspects and the best possible balance between strategy and adaptation to the external environment. These results are somewhat of a new perspective for the logistics industry, environmental compliance, and strategic choice (Ghemawat, 2016). Our common recommendation to both managers and researchers is that they should be more visionary rather than adopting a traditional approach. The following future lines of research may be derived from this paper. First, although this research focused on logistics companies in the Marmara region, it would be interesting to expand this research to different organizations to open a new window on the strategic posture of managers in this sector. Second, we encourage other researchers to expand our research to include developing and emerging countries.

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