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ROLE OF ENVIRONMENTAL UNCERTAINTY IN THE EFFECT OF INNOVATIVENESS AND SUSTAINABILITY IN SUPPLY CHAIN ON A COMPANY'S PERFORMANCE

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Abstract:
The acceleration of industrialization in parallel with the increasing world population has facilitated humanity's use of natural resources in an extravagant, uncontrolled and even ruthless manner. Sustainability is a philosophy that aims to put an end to this tendency, ensure that these resources are used in a more controlled manner, and minimize, or if possible, eliminate damage on the nature. It is essential for organizations, especially export companies, to determine the maturity levels in sustainable supply chain approach and make the necessary improvements in order to achieve competitive advantage. As a result of digitalization, enterprises, which establish the right partnership relationship management scenarios create competitive advantages for themselves. In this study, the importance of innovation even in an environment of uncertainty and the contribution of sustainable supply chain management on the exporter performance was analysed. The study is developed based on the question: "What is the role of environmental certainty or innovativeness in the relationship between sustainable supply chain management and the exporter company performance?"

Keywords:
Supply chain management, sustainability, exporter company performance, environmental uncertainity

1. Introduction
Today, supply chain management is considered as the point where the most critical decisions of companies are taken. The supply chain, which also establishes the balance of power in the competition, and the relationship between the players in the chain, determines the management of the business. During literature review, company performances were reviewed in several scientific studies conducted so far, and they were subject to detailed analyses. In the majority of these studies, it was concluded that several factors such as entrepreneurial orientation (Wales, Parida, Patel, 2013; Alegre, Chiva,2013), information technology (Santhanam, Hartono, 2003; Chae, Koh, Prybutok, 2014) are important aspects that affect the performance of the companies analysed. When the studies of other authors specialized in the field of research on the consumption of resources, it is observed that there are many studies which address the effects of innovative skills on the success or failure of the organizations (Strychalska et. al.., 2021). This study aims to make a different contribution to the literature in the context of combined effect of innovativeness and sustainability on the company performance. The popularization of the concept of innovation has not only affected the behaviours of the companies and the personnel, but also encourages the employees to embrace the organization, its culture and values, and adopting to business objectives.
In the business world, where the severity of competition is far more intense than competition in nature, companies' gaining a competitive advantage and their efforts to outrun the competitors has become as important as their corporate success in their field of activity. One of the most fundamental dynamics, which make this process more accessible and easier for companies is company's ability to make use of its innovative capacity.
Innovativeness and innovation are concepts that directly contribute to company's ability to reach to new generations and carry out activities for many years. Innovation is one of the most important driving factors of company's economic

development. In order to grow, companies aim to produce new products with high added value. Transforming the current products into new and more qualified products is quite significant for growth and becoming a company that has sustainable resources. The process is commonly known as innovation application."
The motivation of this study is to provide an academic discussion ground for addressing the effects of innovation on today's economic environment and conceptualize the innovative company phenomenon in the future. The process characterized as innovation is a key tool for companies to become more productive and more adaptable to changes. Another point in which it serves a critical function is the fact that innovation is an indispensable aspect of companies' strategies to gain competitive advantage.
In an economy that is dominated by the competition between the companies, organizations make huge investments in innovation to outrun their rivals. Adopting correct strategic decisions is a vital factor for implementing successful innovations. In this study, it has been analysed the innovation measurement in the light of innovation inputs and outputs, and focused on the areas, which are of maximum importance in Turkish business sector. In addition to this, it has been investigated the innovation activities, direct effects of various types of innovation on the company performance and whether they have a contribution on the innovation concept. The study was based on quantitative research methods, one of the scientific research methods conducted to obtain accurate data.

2.Literature review:

One of the main objectives of the study is to understand supply chain management and present its development process with scientific methods. In the competitive environment, which is aggravated as a result of globalization, the companies aim to have more market shares. Accordingly, activities such as demand and supply planning, material procurement, production and product planning, product maintenance service, inventory control, distribution, delivery and customer services, which were previously realized on company level, are now transferred to supply chain level for ensuring compliance with the increasing competition conditions (Nunes et al., 2020). Supply chain and the majority of this newly developing process involves the requirement of managing all these activities in a coordinated manner and maintaining control over them.
Another factor, which is as important as supply chain is sustainability. Sustainability has become one of the most important aspects especially in recent years due to the environmental and social effects of economic activities. Sustainability increases the number of uncertain parameters in the supply chain and accurate information cannot be provided about price, customer demand and other parameters due to the effect of various factors such as weather conditions, politics, natural disasters etc. Therefore, it is important to take into consideration the uncertainty in this type of chains (Rajeev et al., 2017). Over the course of the study, it has been discovered the important areas of focus as it has been analysed the relationship between sustainability and supply chain. "Sustainable Supply Chain" management, which involves both concepts, allows developing plans to improve the general performance of the whole supply chain in the long term. It allows the strategic integration of organizational objectives in economic, environmental and social aspects, and achieving these through systematic coordination within the organization. On the other hand, integration of strategic decisions with the concept of sustainability is important for achieving the sustainability level planned under dynamic conditions.
Structures with legal entity, organizations, companies, enterprises etc. must adopt to the changes taking place within their field of activity in order to achieve economic growth and competitive advantage in their development process. The role of innovation in supply chain processes has become more important for the acceleration of this adaptation. For this reason, it is essential that leaders of economic organizations / firms institutionalize innovation as a strategic principle in all organizational processes. Innovation is a means of survival, growth and profitability in the organizational processes of companies. One of the prerequisites of a healthy and functional innovative process is to keep up with the innovations and the effort to find the "state of the art" in all instances. New perspectives must be developed for coming up with new and innovative ideas (Sabahi & Parast, 2020). Today, manufacturing companies in different parts of the world confront several challenges such as the rapid development of technologies, changing market positions, continuous customer / user demand for top quality products and global competition. In the light of all this information, organizations use innovation strategy as a valuable tool in administrative science in order to achieve competitive advantage, increase company performance (Camison & Lopez, 2014) and profitability (Damanpour & Schneider, 2009) and having the ability to adopt to environmental dynamics. Certain models must be developed for using this tool effectively. In organizational innovation processes, activities are analysed by using specific models. The first of these

models is Activity-Phase models. Organizational innovation consists of different phases according to the fundamental activities of the process. These phases are: 1) conducting research to find the root cause of the problem. 2) Providing various innovative plans to solve the problem, 3) Evaluation of innovative solutions and new plans, 4) Selecting and initiating one or more than one solution. 5) Confirming and setting as a routine. In addition to Activity-phase models, another important model is Reactive Process Models. According to this model, innovation if one of the fundamental tools to adopt to changing and turbulent environments. In other words, innovation is a reaction to the external stimulants to the company organization such as pressures from the competitors and changes. It takes place as an inevitable reaction to not only the external stimuli, but also pressures for revising and innovating the working methods and processes within the company's organization. Steps of this process are as follows: 1- Presence of individual motivations for creating new ideas in the organization, 2- Conceptualization of an idea for innovation, 3- Presenting a development plan and 4- Accepting the innovation. Innovation process in this model is divided into phases, which are based on the stimuli. Another important model is the Decision-Phase Model. These types of models are: 1- Collecting data to minimise uncertainties, 2- Evaluation of information, 3- Decision-making and 4- Determining the key factors and remaining uncertainties.

2. Research and Findings

The first section of the study is focused on the conceptual framework, description of concepts in literature, and presenting the current discussions in the relevant fields. The final section of the study presents the scientific research analyses conducted within the scope of the study. Conceptual model, as a reflective model, aims to analyse the current status in various industries in Turkey, and determine the factors which affect the performance of supply chain. Based on this, factors were determined and confirmed by using the confirmative factor analysis. Following this, based on the data collected from the current conditions, the relations between the factors and research components were analysed in each field by means of structural equality model.

The hypotheses adopted for the research method are:

- H1a: Innovativeness has a direct positive effect on Environmental Management Applications.
- H1b: Innovativeness has a direct positive effect on Operational Applications.
- H1c: Innovativeness has a direct positive effect on Supply Chain Integration.
- H1d: Innovativeness has a direct positive effect on Socially Inclusive Applications for Employees.
- H1e: Innovativeness has a direct positive effect on Socially Inclusive Applications.
- H2: Innovativeness has a direct positive effect on Company Performance.
- H3a: Environmental Management Applications have a direct positive effect on Company Performance.
- H3b: Operational Applications have a direct positive effect on Company Performance.
- H3c: Supply Chain Integration has a direct positive effect on Company Performance.
- H3d: Socially Inclusive Applications for the Employees have a direct positive effect on Company Performance.
- H3e: Socially Inclusive Applications for Communities have a direct positive effect on Company Performance.

The study, hypothesis of which are determined, has, as mentioned above, has a quantitative approach as its research methodology. In accordance with the methodology of the study, a questionnaire, which consists of two sections and 46 questions, was developed. The first section measures the research variables. The second section addresses the demographic variables. Likert scale is one of the most commonly used scales for measuring the attitude consisting of a series of regular items (expressions) formulated in a specific order. Likert scale was used for measuring the attitudes of respondents. These items represent the specific states of the measured phenomenon or variable with equal distance in value. The scales selected for this study are relative and 5-point Likert scales.

As is the case with all scientific research, data collection tools must have the required validity and reliability in order for the study to collect the relevant data, analyse data, test the hypothesis through analyses and finding answers to research questions. Internal validity was applied to ensure reliability in this regard. Internal validity is a type of validation used to examine the components of a measurement tool. Internal validity of a measurement tool depends on the questions that constitute it. Cronbach's Alpha method was also used for testing the reliability of the questionnaire used in the research.

The questionnaire was implemented on a limited and qualified group as a population determined specifically and appropriate for the subject of the study. Questionnaire data was analysed, and conclusions were made based on this analysis. All hypothesis were accepted except H3a,H3b,H3d.

94.1% of the participants of the questionnaire, which was conducted within the scope of the study, are male, and 5.9% or female. With regards to education status. 62% of participants hold bachelor's degree, 22% of them are high school graduates, and 16% of them hold master's degree. 91.5% of the companies participating in the questionnaire were represented by top level managers, and 8.5% of them were represented by mid-level managers. With regards to the industry and production sectors, 35.1% of the companies are in manufacturing sector. 8.5% of them are in food sector, 8% of them are service companies, 1.3% of them are in agriculture, and 47% of them were in other sectors. Significant amount of data was derived from a population of participants that show quite a wide range of diversity.

Other significant data related to the questionnaire are as follows: Average life of the companies participating in the questionnaire is 30.4. 61.2% of the companies participating in the questionnaire have an annual revenue over 10 million TL, 19.4% of the companies have an annual revenue between 5-10 Million TL, 14.2 of the companies have an annual revenue between 1-5 Million TL, and 5.2% of the companies have an annual revenue below 1 million TL.

66.4% of the questionnaire participants consider sustainability as equal to showing due diligence for financial, environmental aspects and the future generations, and meeting the needs of the future. 30.2% of the participants consider sustainability in relation with the ecologic and social processes, and 3.4% of the participants have other views on sustainability.

In the analysis of the answers given by the respondents, it was observed that 13.7% of the participants consider the performance of the company as equal to demands of the major shareholders and operational capacity. 28.4% of the participants consider the performance of the company as equal to the efficiency of the organization. According to 16% of the participants, performance of the company depends on how the company makes use of the environment for having access to and using the limited resources. According to 40.8% of the participants, performance of the company depends on efficiency, flexibility and adaptability. 1% of participants have different views on the performance of the company.

Significant data was also collected for evaluating the contribution of planning and strategy on the process as an important factor for measuring and analysis purposes. 33.1% of the participants of the questionnaire, as the majority, consider the planning and strategy as the key process of supply chain. On the other hand, 19.4% of the participants consider the purchasing process, 16.5% of participants consider the production process, 12.1% the inventory management, 1% stock, 1.8% the distribution and delivery management, 10.9% of them the order management, and 5.2% of the participants consider other processes as the fundamental supply chain process.

4. Conclusion:

Conclusions were reached with specific analyses by using the answers to other questions in the main text of the study. This study, above all, shows the fundamental role of innovativeness in adopting the supply chains. It is more probable that producers will be more effective in integration process in their continuous effort to discover and grasp the innovative ideas.

As far as the components of innovativeness in the context of supply chain are concerned, discovering new ideas and roads, creative methods of supply chain operations, introducing new ways of providing service to supply chain, introducing new processes in supply management will carry companies to higher levels.

As companies design plans to improve the performance of the supply chain for a sustainable supply chain, they must acknowledge the roles of the supply chain integration activities and applications. Supply chain visibility, as a critical factor that affects the performance of the companies, can be improved through close integration with supply chain partners by making use of cutting-edge technology information systems to provide guidance especially to the partners on how inventory visibility can be increased.

Sustainability is quite important for the future and production wealth of supply chain companies. Another behavioural model that can be adopted by the companies in order to achieve this sustainability, is to grant their managers with the authority to promote supply chain improvement applications. Also, to maintain their sustainable supply management, the companies must establish an innovative culture and learning patterns that encourage new ideas and interest in new technology to the benefit of its managers, employees, stakeholders for providing new information and opportunities.

In order to shed light on future research, it is important to advise that academic contribution will increase if the research is applied in different sectors.

For future research, it is recommended to broaden the scope by collecting data from all partners of the supply chain and analyze the company's innovation and their impact on performance. This study provides the research methods for the future. For instance, analysis on how the cooperation between companies can revitalize their innovative profiles as they carry out innovative actions, will establish a promising line of research.

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