AN EXAMINATION ON THE EFFECT OF STRATEGIC MANAGEMENT PRACTICES ON ENVIRONMENTAL INNOVATION

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Abstract

In order for firms to have competitive advantage, it is necessary to determine and implement future-oriented strategies as well as to carry out daily activities effectively and efficiently. Today, the environmental issue is seen as a competitive tool for most firms. In order to use this competitive tool, it is necessary to focus on innovation studies and these studies must be "sustainable", just like the main theme on which the environmental issue is focused. The sustainability requires looking to the future from today. Therefore, in this study, it is aimed to determine the effect of strategic management practices on environmental innovation. In addition, it can be said that at the end of the study, information will be obtained on whether environmental innovation is considered as a strategic decision by firms. For this purpose, data were collected from 32 small and medium-sized manufacturing enterprises (SMEs) operating in Kayseri (Turkey) through a questionnaire. The collected data were subjected to correlation analysis and regression analysis. The findings of the study showed that only participation in strategic management practices has significant effect on environmental product innovation. Planning flexibility and participation have significant effects on environmental process innovation.

Keywords: Environmental product innovation, environmental process innovation, learning, participation, strategic management practices
1. Introduction

Today, firms are in the position of actors in a competitive environment whose conditions are getting harder and harder. While many firms take a position according to change by following a passive method, few firms anticipate change and prepare for the future by anticipating change. The aforementioned competitive environment makes it necessary to constantly renew itself and keep up with changing conditions. At this point, strategic management emerges as an important tool for firms. Strategic management practices enable the making of strategic decisions that shape how firms will behave in the future. Decisions that concern the entire firm, such as in which sector to operate, which products to produce, the competitive strategy to be followed or the arrangement of the organizational structure, can be given as examples of these decisions.

The environmental issue is perceived as an opportunity beyond a cost element for most firms. Reducing resource use and waste provides cost advantages for firms, while increasing firm image and reputation offers long-term opportunities. In addition, the responsibilities of firms to the society may cause them to follow environmental practices. Environmental innovation can be defined as the product and process development and application studies carried out by firms in order to reduce the damage to the environment (Barbieri & Santos, 2020; De Souza et al., 2018; Long et al., 2017).

It is important for firms to take decisions about environmental innovation from a strategic point of view. Thus, it will be possible for environmental innovation to be continuous and successful. To reveal the possible relationships between environmental innovation and strategic management practices will be a guide for firms. Therefore, in this study, it is aimed to determine the effect of strategic management practices on environmental innovation. In addition, if the relationship between environmental innovation and strategic management practices is revealed at the end of the study, it can be concluded that environmental innovation is considered as a strategic decision for firms. In line with this purpose, conceptual information on strategic management practices and environmental innovation has been presented.

On the other hand, as in the rest of the world, SMEs constitute the majority of all firms in Turkey. The transformation of SMEs will have significant benefits at the micro and macro level. Although there have been studies conducted on SMEs in recent years, it is seen that strategic management and innovation issues are mostly examined in large firms. Therefore, SMEs constitute the sample of this study. The data collected through a questionnaire from 32 manufacturing SMEs were analyzed with statistical program. Finally, the results of the research were presented and suggestions were made for researchers and practitioners.

2. Literature Review

Strategic management, often referred to as “policy” or just “strategy” today, refers to the direction that organizations and often firms follow. It includes topics that determine the reasons for success and failure in terms of top management or organizations. The basic assumption of the strategic management field is that these choices have a critical impact on the success or failure of the firm and they should be integrated (Kasych et al., 2020; Rumelt et al., 1991). Strategic management involves constantly scanning
and adapting to the environment, rather than simply scanning the environment in the annual planning review. Strategic management is a continuous and dynamic process that includes firms gaining competitive advantage as a result of their efforts to adapt successfully to their environment. The competitive advantage allows the firm to capitalize on opportunities and minimize environmental threats. Therefore, strategic management is a cumulative and co-evolutionary process between firms and the environment in which they operate (Stead & Stead, 2008).

There are different views on the classification of strategic management practices. In this study, classification consisting of scanning (analysis) intensity, planning flexibility, learning from mistakes and participation dimensions was used in accordance with some previous studies (Barringer & Bluedorn, 1999; Doğan, 2008; Fidan et al., 2016). Scanning (analysis) intensity or environmental scanning refers to the management of the process of having information about the events and changes in the environment of the firm. Broad, effortful, and sustained scanning provides information to managers about events and changes in their respective environments, which facilitates the recognition of opportunities (Barringer & Bluedorn, 1999; Nag et al., 2020).

Researchers have noted that planning has a natural tendency to be inflexible, and the creation of forward plans tends to make management inflexible. Therefore, planning flexibility is an organizational design feature that has received little attention in research, and is the ability of a firm’s strategic plan to change as environmental opportunities or threats arise. It has the assumption that firms in complex environments maximize their performance by adopting flexible planning systems. Flexible planning systems allow firms to quickly adjust their strategic plans to follow opportunities and keep pace with environmental change (Barringer & Bluedorn, 1999; Ojha et al., 2020).

Learning from mistakes involves recognizing that unexpected and undesirable results occur and acquiring knowledge that will reduce the likelihood of these experiences occurring in the future. While mistakes are almost inevitable and often costly, they can also provide valuable learning experiences. Experiential learning is considered to be a particularly useful and effective way for firms and their employees to learn from mistakes. In this process, employees reflect on their performance and results, discover cause-effect relationships, and identify strengths and weaknesses in their own efforts. They gain the ability to evaluate their own behaviour and prepare for future challenges (Tjosvold et al., 2004; Weinzimmer & Esken, 2017).

Participation refers to the attendance of firm employees in the formulation and implementation of the strategy in the strategic management process (Zhou et al., 2019). Particular attention is paid to the involvement of lower level employees in the process (Fidan et al., 2016). Diversity of ideas and experience is provided in the firm through participation. It is argued that participatory strategic management creates better strategic choices, more realistic strategies, better adaptation to the changing environment and reaching goals more easily (Witek-Crabb, 2012).

Schumpeter defined innovation in two ways (Schumpeter, 1939); according to the first definition, innovation means changing the form of the function of the product. From this definition, it can be understood at first that innovation consists of the same type of product that has been produced before. However, innovation needs to be considered as a new production function. Schumpeter’s second definition of innovation is based on product cost. When the prices of the factors of production are fixed,
the total costs must increase in direct proportion to the amount of output. Although the prices of the factors do not decrease for the same amount of product produced before, it can be said that innovation exists when less costs are incurred for the same amount of output compared to the previous one.

Another definition of innovation, which is frequently used in the literature and which is generally taken as a basis by the public institutions of the member countries, belongs to the Organization for Economic Development and Cooperation (OECD). In the OECD definition, the term innovation refers to both a process and the result of this process. Accordingly, innovation is a new or improved product or process used in the production of a product. It also a combination of them that is offered to potential users that is significantly different from a firm's previous products or processes (OECD/Eurostat, 2018).

Since Schumpeter, innovation has been widely recognized as one of the most important drivers of economic value and performance. In addition to being an important tool for firms in meeting customer demands and improving costs, innovation has also started to be used for environmental purposes as a result of the increasing awareness of consumers to the environmental issues and the widespread use of environmentally friendly management. Compared to traditional innovation, this type of innovation is a relatively new concept and called environmental innovation, green innovation, sustainable innovation or eco-innovation. It is considered an important win-win strategy where firms restructure their business practices to contribute to both firm and environmental performance (Zhang & Walton, 2017; Hizarcı-Payne et al., 2021). In this study, the expression of environmental innovation was preferred.

Environmental innovation refers to a wide variety of innovations such as renewable energy technologies, pollution prevention plans, waste management equipment, green financial products and biological agriculture that significantly reduce environmental impact as well as providing customer and firm value (Karakaya et al., 2014; Tsai & Liao, 2017). It is a new or significantly improved product (good or service), process, organizational method or marketing method that creates environmental benefits compared to alternatives (Cegarra-Navarro et al., 2019).

Environmental innovation is a series of innovation practices that include an improved product, a new process and new systems to reduce environmental degradation, namely product innovation, process innovation and organizational innovation dimensions (Cheng et al., 2014; Xie et al., 2019; Ch'ng et al., 2021). Environmental product innovation refers to the use of new or significantly improved goods or services in terms of resource conservation and environmental protection (Liao, 2018; Shao et al., 2020). It aims to modify or improve product designs by using non-toxic compounds or biodegradable materials in the production process to reduce its negative impact on the environment and increase energy efficiency (Xie et al., 2019). Environmental process innovation is related to the use of new techniques in the production process (Cheng et al., 2014; Hu et al., 2017). It is the efficient use of resources in all aspects of the production process to reduce environmental pollution (Liao, 2018). Implementing cost-saving environmental process innovation through better use of materials and energy often requires additional investments, but the anticipated productivity gains often make these investments attractive (Horbach, 2018).

The uncertainty of customers' preference for products developed with environmental innovation, market uncertainty and the risks of insufficient return on investment are some of the factors that force firms in their innovation decisions (Karakaya et al., 2014). Strategic management practices often involve
decisions that affect a firm's relationship with its environment and affect both strategy and structure selection. Market segmentation and its corresponding positioning are among the most important contributions of marketing to strategic management. Market segmentation is defined as the division of a market into subsets based on different customer needs and the way they buy and use a product or service and positioning is the decision to serve a certain segment with a program tailored to specific customer needs (Biggadike, 1981; Saleem et al., 2018). Producing environmentally friendly products or creating an environmentally friendly firm image can be considered as a strategic decision in terms of market segmentation and positioning.

Environmental innovation reduces the resource use of firms. Energy, water and raw material consumptions are decreasing, especially with environmental process innovation. The use of these resources can also be reduced through environmental product innovation by changing product characteristics. However, environmental product innovation primarily focuses on the development of greener products. Consumers' environmental awareness and interest in environmentally friendly products have been increasing. Therefore, environmental innovation can be used as a strategic tool for the firms to gain competitive advantage.

Table 1. A literature review on strategic management and innovation relationship

| Authors               | Variables                                      | Method                             | Main Findings                                                                 |
|-----------------------|------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------|
| Cingöz and Akdoğan (2013) | - Strategic flexibility                           | 69 firms operating in different sectors in Turkey | A significant relationship was found between strategic flexibility and innovation performance. |
|                       | - Exploratory innovation                         |                                    |                                                                                |
|                       | - Developing innovation                          |                                    |                                                                                |
|                       | - Environmental dynamism                         |                                    |                                                                                |
|                       | - Scanning intensity                              |                                    |                                                                                |
|                       | - Planning flexibility                            |                                    |                                                                                |
|                       | - Learning from mistakes                         |                                    |                                                                                |
|                       | - Participation                                  |                                    |                                                                                |
|                       | - Speed of technology change                      |                                    |                                                                                |
|                       | - Market complexity                               |                                    |                                                                                |
|                       | - Innovation performance                         |                                    |                                                                                |
| Fidan, Çetin and Yıldırım (2016) | - Organizational learning ability               | 121 industrial firms in Turkey | Scanning intensity, planning flexibility and participation affect innovation performance. |
|                       | - Organizational innovation                       |                                    |                                                                                |
|                       | - New product performance                         |                                    |                                                                                |
|                       | - Business performance                            |                                    |                                                                                |
| Onağ and Tepeci (2016) | - Vision                                        | 285 managers of 6 firms listed in Turkey's largest 1000 | Organizational learning capability has an impact on organizational innovation and new product performance. |
|                       | - Participation in work                           |                                    |                                                                                |
|                       | - Fit                                             |                                    |                                                                                |
|                       | - Consistency                                     |                                    |                                                                                |
|                       | - Product innovation                              |                                    |                                                                                |
| Özdemir and Sönmez (2018) | - Strategic management                            | 245 firm managers operating in Turkey | Dimensions of vision and work engagement have significant effects on product innovation. |
|                       | - Product innovation                              |                                    |                                                                                |
|                       | - Process innovation                              |                                    |                                                                                |
|                       | - Market innovation                               |                                    |                                                                                |
|                       | - Organizational innovation                       |                                    |                                                                                |
| Çetinkaya and Gülbahar (2019) | - Participatory decision making                  | 300 SME managers in 35 different sectors operating in Turkey | A significant relationship was found between strategic management and innovation processes. |
|                       | - Environmental innovation                        |                                    |                                                                                |
| Amara and Chen (2021)  | - Participatory decision making                   | 365 firms from the agriculture and food | Participatory decision making increases |
|                       | - Environmental innovation                        |                                    |                                                                                |
3. Research Method

3.1. Sampling

The sample of the research consists of 32 manufacturing SMEs operating in Kayseri. In their distribution by sector, the firms operating in the furniture (34.4 percent) and metal products (18.7 percent) sectors share the first two places. 44.7 percent of the firms have been operating for 10 or more years. According to the number of employees, it is seen that the firms with 50 or less employees (81.2 percent) are in the majority.

3.2. Data collection method

Research data were collected through a questionnaire consisting of two scales. Strategic Management Practices Scale (Doğan, 2008), which is also used by Fidan et al. (2016), was used to determine the levels of strategic management practices. In the scale, there are 12 items in the dimension of scanning intensity, 8 items in the dimension of planning flexibility, 3 items in the dimension of learning from mistakes and 4 items in the dimension of participatory. Participants were asked about their
level of agreement with these items using a five-point Likert-type scale (1=Strongly Disagree, 5=Strongly Agree).

Environmental Innovation Scale (Cheng & Shiu, 2012) adapted into Turkish by Yıldız Çankaya and Sezen (2015) was used to determine the environmental innovation levels of firms. The scale has 6 items in the dimension of environmental product innovation and 4 items in the dimension of environmental process innovation. Participants were asked about their level of agreement with these items using a five-point Likert-type scale (1=Strongly Disagree, 5=Strongly Agree).

### 3.3. Findings

The results of the correlation analysis show that there are limited significant relationships between the variables (see Table 2). There are significant and positive correlations between participation and environmental product innovation ($r=.451, p<.01$) and environmental process innovation ($r=.746, p<.01$).

| Variables                        | Mean | Standard deviation | 1  | 2  | 3  | 4  | 5  | 6  |
|----------------------------------|------|--------------------|----|----|----|----|----|----|
| 1. Scanning intensity            | 4.13 | .46                | (.797) |     |    |    |    |    |
| 2. Planning flexibility          | 4.09 | .68                | .434* | (.838) |     |    |    |    |
| 3. Learning from mistakes        | 4.33 | .63                | .293 | .272 | (.695) |     |    |    |
| 4. Participation                | 3.27 | .99                | .087 | .182 | .121 | (.838) |     |    |
| 5. Environmental product innovation | 3.60 | .64                | .022 | .004 | .297 | .451** | (.786) |    |
| 6. Environmental process innovation | 3.95 | .86                | -.075 | -.205 | .010 | .746** | .368* | (.855) |

* p<.05 ** p<.01

Regression analyses were conducted to test the model and hypotheses created in line with the purpose of the research.

Table 3. Regression analysis to determine the effect of strategic management practices on environmental product innovation

| Predictors                        | B    | SE    | β    | Tolerance | VIF |
|-----------------------------------|------|-------|------|-----------|-----|
| Scanning intensity                | -.029| .128  | -.042| .779      | 1.284|
| Planning flexibility              | -.098| .131  | -.138| .772      | 1.296|
| Learning from mistakes            | .602 | .355  | .293 | .883      | 1.132|
| Participation                     | .434 | .162  | .444*| .961      | 1.040|
| Constant                          | 12.751| 6.505 |     | 6.505     | 1.115|

$R^2 = .286$; Adjusted $R^2 = .180$; F= 2.701; p<.05

As shown in Table 3, multiple regression analysis results on the effect of strategic management practices on environmental product innovation are statistically significant (F=2.701, p<.05). Only participation has significant effect on environmental product innovation ($β=.444$, p<.05). Therefore, hypothesis $H_4$ is supported, on the other hand hypotheses $H_1$, $H_2$ and $H_3$ are rejected.
The results of multiple regression analysis in Table 4, which were performed to determine the effect of strategic management practices on environmental process innovation, are statistically significant (F=14.150, p<.001).

Table 4. Regression analysis to determine the effect of strategic management practices on environmental process innovation

| Predictors                | B     | SE  | β   | Tolerance | VIF  |
|---------------------------|-------|-----|-----|-----------|------|
| Scanning intensity        | .004  | .077| .007| .779      | 1.284|
| Planning flexibility      | -.224 | .078| -.357* | .772      | 1.296|
| Learning from mistakes    | .013  | .212| .007| .883      | 1.132|
| Participation             | .701  | .097| .810** | .961      | 1.040|
| Constant                  | 13.553| 3.880|     |           |      |

R²=.677; Adjusted R²=.629; F= 14,150; p<.001

When beta values are examined, it is seen that planning flexibility (β=-.357, p<.05) and participation (β=.810, p<.01) have significant effect on environmental process innovation. As a result, hypotheses H₆ and H₈ are supported and hypotheses H₅ and H₇ are rejected.

4. Conclusion and Discussion

Firms aim to gain long-term competitive advantage with strategic management practices. Having a competitive advantage is important for firms in terms of high profitability and continuity of their activities. Environmental innovation provides cost advantages to firms by reducing resource use and waste, as well as providing long-term opportunities such as increasing firm image and reputation. Therefore, in this study, we aimed to determine the effect of strategic management practices on environmental innovation. According to findings of the study, some of the strategic management practices have significant effect on environmental innovation.

In the hypothesis tests, it was concluded that only participation had a significant effect on explaining the level of environmental product innovation. The significant impact of participation on environmental product innovation is in line with some previous studies (for example, Amara & Chen, 2021; Fidan et al., 2016; Özdemir & Sönmez, 2018). In order for environmental product innovation to take place, it is necessary to know the market and the consumer and to have a consumer perspective. Therefore, the more people and stakeholders are involved in the process, the more ideas and suggestions will be possible to develop. The results of the research showed that the level of participation was low. This result may have emerged because strategic decisions in SMEs are mostly taken by owners or top managers. Considering this result, it is predicted that there will be an increase in the number of environmental product innovations if participation is improved.

Planning flexibility and participation from strategic management practices have a significant impact on environmental process innovation. The effect of strategic management on process innovation is consistent with the findings of Çetinkaya and Gülbahtar's (2019) study. Since environmental process innovation mostly involves the improvement of production processes, the contributions of lower-level employees are needed more than product innovation. There is inverse relationship between planning flexibility and environmental process innovation (β=-.357, p<.05). This result shows that if the plans are
implemented flexibly, process innovation decreases. Considering that planning is applied more flexibly in SMEs compared to large enterprises, risk arises in terms of environmental innovation. Therefore, it shows that plans should be implemented more strictly in order to increase environmental innovation.

This study has some limitations. The most important limitation of the study is related to the data collection period. This situation limits the number of firms reached. Another limitation of the study is the impact of the Covid 19 pandemic on the data collection process. Pandemic conditions have affected the number of firms reached. In addition, it became difficult to explain to the respondents and to determine whether the question statements were clearly understood. The sample of the research was selected from the manufacturing SMEs in the province of Kayseri. This situation creates a limitation in terms of generalizing the research findings to all firms. Working on different samples is important in terms of testing the research findings. Data collection in different time periods will contribute to the validation of the research results.

References

Amara, D. B., & Chen, H. (2021). The impact of participative decision-making on eco-innovation capability: the mediating role of motivational eco-innovation factors. environment, Development and Sustainability, 23(5), 6966-6986. https://doi.org/10.1007/s10668-020-00900-0

Barbieri, R., & Santos, D. F. L. (2020). Sustainable business models and eco-innovation: A life cycle assessment. Journal of Cleaner Production, 266, 121954. https://doi.org/10.1016/j.jclepro.2020.121954

Barringer, B. R., & Bluedorn, A. C. (1999). The relationship between corporate entrepreneurship and strategic management. Strategic Management Journal, 20(5), 421-444. https://doi.org/10.1002/(SICI)1097-0266(199905)20:5<421::AID-SMJ30>3.0.CO;2-O

Biggadike, E. R. (1981). The contributions of marketing to strategic management. Academy of Management Review, 6(4), 621-632. https://doi.org/10.5465/amr.1981.4285710

Cegarra-Navarro, J. G., Papa, A., Garcia-Perez, A., & Fiano, F. (2019). An open-minded strategy towards eco-innovation: A key to sustainable growth in a global enterprise. Technological Forecasting and Social Change, 148, 119727. https://doi.org/10.1016/j.techfore.2019.119727

Cheng, C. C., & Shiu, E. C. (2012). Validation of a proposed instrument for measuring eco-innovation: An implementation perspective. Technovation, 32(6), 329–344. https://doi.org/10.1016/j.technovation.2012.02.001

Cheng, C. C., Yang, C. L., & Shue, C. (2014). The link between eco-innovation and business performance: a Taiwanese industry context, Journal of Cleaner Production, 64, 81-90. https://doi.org/10.1016/j.jclepro.2013.09.050

Cingöz, A., & Akdoğan, A. A. (2013). Strategic flexibility, environmental dynamism, and innovation performance: an empirical study. Procedia-Social and Behavioral Sciences, 99, 582-589. https://doi.org/10.1016/j.sbspro.2013.10.528

Ch’ng, P. C., Cheah, J., & Amran, A. (2021). Eco-innovation practices and sustainable business performance: the moderating effect of market turbulence in the Malaysian technology industry, Journal of Cleaner Production, 283, 1-11. https://doi.org/10.1016/j.jclepro.2020.124556

Çetinkaya, F. F., & Gülbahar, H. O. (2019). Stratejik yönetim ve inovasyon ilişkisi: KOBİ’ler üzerine bir araştırma [Relation of strategic management and innovation: a research on small and medium sized enterprises]. Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 5(2), 349-367. https://doi.org/10.31592/aeusbed.598079

Davis, P. E., & Bendickson, J. S. (2021). Strategic antecedents of innovation: Variance between small and large firms. Journal of Small Business Management, 59(1), 47-72. https://doi.org/10.1111/jsbm.12478
De Souza, W. J. V., Seur, G., & De Castro Hilsdorf, W. (2018). Eco-innovation practices in the brazilian ceramic tile industry: The case of the Santa Gertrudes and Criciúma clusters. *Journal of Cleaner Production, 199*, 1007-1019. https://doi.org/10.1016/j.jclepro.2018.06.098

Doğan, T. (2008). Strateji tipleri ve stratejik yönetim süreçlerinin firma performansına etkileri [Performance impacts of business strategy types and strategic management processes]. [Unpublished PhD Thesis]. Gebze Yüksek Teknoloji Enstitüsü Sosyal Bilimler Enstitüsü, Gebze.

Fidan, Y., Çetin, S., & Yıldiran, C. (2016). İşletmelerde stratejik yönetim uygulamaları ve yenilik performansı ilişkisi: Bartın ve Karabük illerindeki işletmeler üzerinde bir araştırma [The relationship between strategic management practices and innovation performance in firms: a study on firms in provinces of Bartın and Karabük]. *Bartın Üniversitesi İ.İ.B.F. Dergisi, 7*(14), 221-240.

Hizarci-Payne, A. K., İpek, İ., & Kurt Gümüş, G. (2021). How environmental innovation influences firm performance: A meta-analytic review. *Business Strategy and the Environment, 30*(2), 1174-1190. https://doi.org/10.1002/bse.2678

Horbach, J. (2018). The impact of resource efficiency measures on the performance of small and medium-sized enterprises. In J. Horbach, & C. Reif (Eds.), *New developments in eco-innovation research* (pp. 147–162). Cham, Switzerland: Springer. https://doi.org/10.1007/978-3-319-93019-0_7

Hu, D., Wang, Y., Huang, J., & Huang, H. (2017). How do different innovation forms mediate the relationship between environmental regulation and performance? *Journal of Cleaner Production, 167*, 466-476. https://doi.org/10.1016/j.jclepro.2017.05.152

Karakaya, E., Hidalgo, A., & Nuur, C. (2014). Diffusion of eco-innovations: A review, *Renewable and Sustainable Energy Reviews, 33*, 392-399. https://doi.org/10.1016/j.rser.2014.01.083

Kasych, A., Suler, P., & Rowland, Z. (2020). Corporate environmental responsibility through the prism of strategic management. *Sustainability, 12*(22), 9589. https://doi.org/10.3390/su12229589

Liao, Z. (2018). Corporate culture, environmental innovation and financial performance. *Business Strategy and the Environment, 27*(8), 1368-1375. https://doi.org/10.1002/bse.2186

Long, X., Chen, Y., Du, J., Oh, K., Han, I., & Yan, J. (2017). The effect of environmental innovation behavior on economic and environmental performance of 182 Chinese firms. *Journal of Cleaner Production, 166*, 1274-1282. https://doi.org/10.1016/j.jclepro.2017.08.070

Nag, R., Neville, F., & Dimotakis, N. (2020). CEO scanning behaviors, self-efficacy, and SME innovation and performance: An examination within a declining industry. *Journal of Small Business Management, 58*(1), 164-199. https://doi.org/10.1080/00472778.2019.1659676

OECD/Eurostat. (2018). Oslo Manual 2018: Guidelines for collecting, reporting and using data on innovation (4th ed.), *The measurement of scientific, technological and innovation activities*. OECD.

Ojha, D., Patel, P. C., & Sridharan, S. V. (2020). Dynamic strategic planning and firm competitive performance: A conceptualization and an empirical test. *International Journal of Production Economics, 222*, 107509. https://doi.org/10.1016/j.ijpe.2019.09.030

Onaş, O., & Tepeci, M. (2016). Örgütsel öğrenme kabiliyetinin örgütsel yenilikçilik aracılığıyla yeni ürün ve işletme performansına etkisi [Organizational learning capability and its impact on new product and business performance through organizational innovativeness]. *İ.Ü. İşletme Fakültesi İşletme İktisadi Enstitüsü Yönetim Dergisi, 80*, 50-79.

Özdemir, L., & Sönmez, R. V. (2018). Örgütsel kültürün ürün inovasyonu üzerinde etkisine yönelik bir araştırma [A research on the effect of organizational culture on product innovation]. *Süleyman Demirel Üniversitesi Vizyoner Dergisi, 9*(21), 14-26. https://doi.org/10.21076/vizyoner.397624

Rumelt, R. P., Schendel, D., & Teece, D. J. (1991). Strategic management and economics. *Strategic Management Journal, 12*, 5-29. https://doi.org/10.1002/smj.4250121003

Saleem, M. A., Eagle, L., & Low, D. (2018). Market segmentation based on eco-socially conscious consumers’ behavioral intentions: Evidence from an emerging economy. *Journal of Cleaner Production, 193*, 14-27. https://doi.org/10.1016/j.jclepro.2018.05.067

Schumpeter, J. A. (1939). *Business Cycles*. McGraw-Hill.
Shao, S., Hu, Z., Cao, J., Yang, L., & Guan, D. (2020). Environmental regulation and enterprise innovation: A review. Business Strategy and the Environment, 29(3), 1465-1478. https://doi.org/10.1002/bse.2446

Stead, J. G., & Stead, W. E. (2008). Sustainable strategic management: an evolutionary perspective. International Journal of Sustainable Strategic Management, 1(1), 62-81. https://doi.org/10.1504/IJSSM.2008.018127

Tjosvold, D., Yu, Z. Y., & Hui, C. (2004). Team learning from mistakes: the contribution of cooperative goals and problem-solving. Journal of Management Studies, 41(7), 1223-1245. https://doi.org/10.1111/j.1467-6486.2004.00473.x

Tsai, K. H., & Liao, Y. C. (2017). Innovation capacity and the implementation of eco-innovation: Toward a contingency perspective. Business Strategy and the Environment, 26(7), 1000-1013. https://doi.org/10.1002/bse.1963

Weinzimmer, L. G., & Esken, C. A. (2017). Learning from mistakes: How mistake tolerance positively affects organizational learning and performance. The Journal of Applied Behavioral Science, 53(3), 322-348. https://doi.org/10.1177/0021886316688658

Witek-Crabb, A. (2012). Sustainable strategic management and market effectiveness of enterprises. Procedia-Social and Behavioral Sciences, 58, 899-905. https://doi.org/10.1016/j.sbspro.2012.09.1068

Xie, X., Huo, J., & Zou, H. (2019). Green process innovation, green product innovation, and corporate financial performance: a content analysis method. Journal of Business Research, 101, 697-706. https://doi.org/10.1016/j.jbusres.2019.01.010

Yıldız Çankaya, S., & Sezen, B. (2015). Ekolojik yenilik ile sürdürülebilirlik performansı arasındaki ilişkide çevresel belirsizliğin moderatör etkisi [Moderator effect of environmental uncertainty on the relationship between ecologic innovation and sustainability performance]. Uluslararası Yönetim İktisat ve İşletme Dergisi, 11 (24), 111-134. https://doi.org/10.17130/ijmeb.2015.11.24.741

Zhang, J. A., & Walton, S. (2017). Eco-innovation and business performance: the moderating effects of environmental orientation and resource commitment in green-oriented SMEs, R&D Management, 47(5), 26-39. https://doi.org/10.1111/radm.12241

Zhou, Y., Fan, X., & Son, J. (2019). How and when matter: Exploring the interaction effects of high-performance work systems, employee participation, and human capital on organizational innovation. Human Resource Management, 58(3), 253-268. https://doi.org/10.1002/hrm.21950