The Effect of Sustainable Innovation Performance and Business Continuity Planning of Large Scale Firms on Corporate Sustainability

Büyük Ölçekli Firmaların Sürdürülebilir İnovasyon Performansı ve İş Sürekliliği Planlamasının Kurumsal Sürdürülebilirlik Üzerindeki Etkisi

Hakan YILMAZ

Abstract: In this study, the effect of sustainable innovation performance and business continuity planning on corporate sustainability at large scale local and international firms is aimed to be described in the light of demographic factors. In the research, analyses were made on the data collected from 311 employees, working at 12 international and 13 local large-scale corporate companies. Hypotheses were tested by using multi-item scales that are acknowledged in the literature. Correlation, regression analysis, t-test and ANOVA analysis methods were applied. The findings reveal that sustainable innovation performance, business continuity planning and sustainable innovation performance/business continuity planning moderator variable positively influence the establishment and the conservation of corporate sustainability. Having compliance department inside the organization, longer years of work experience, higher number of staff and education level strengths the corporate sustainability.

Keywords: corporate sustainability, sustainable innovation performance, business continuity planning, large scale corporate firms.


Keywords: kurumsal sürdürülebilirlik, sürdürülebilir inovasyon performansı, iş sürekliliği planlaması, büyük ölçekli kurumsal firmalar.


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1. Introduction

Social and environmental governance is one of the growing investment trends of the last decade. Today, organizations tend to embrace sustainability practices and embed them into their current models and future plans (Eccles et al., 2014:2835-2857). Latest developments show that the chance of survival of enterprises remarkably count on innovation, business continuity and sustainability although they can’t be the only sufficient factors for forming and maintaining a competitive advantage (Ioannou & Serafeim, 2019: 3). In this context, it is seen that a lot of research has been done on these concepts in the literature recently. Corporate sustainability is acknowledged as more contemporary, extensive, and practicable version of corporate societal responsibility in which firms protects social & environmental interests, whilst seeking organizational benefits (Gavin, 2019).

Considering large-scale companies, it is observed that innovation and business continuity planning is implemented with more adoption. How organizations can survive, has always remained on the agenda. Innovation and business continuity are the defining elements of corporate sustainability (Swarnapali, 2017:1-16). The possible function of sustainable innovation performance and business continuity on corporate sustainability is missing in the literature. For this reason, the problem of the research is focused on the question of how sustainability innovation performance and business continuity affects corporate sustainability. The data of the research, which is a case study, were obtained from large-scale local and international firms in 2019. In the study first of all, information about corporate sustainability, sustainability innovation performance and business continuity planning variables are given, then the research method, findings and results are discussed.

Theoretically speaking, until the present time, there has been no study in the literature to reveal the relation among corporate sustainability, sustainable innovation performance and business continuity planning, with its antecedents and consequences in the context of large scale firms performing in a developing country, Türkiye in particular. Furthermore, the moderating role of sustainable innovation performance and business continuity planning on corporate sustainability has been tested for the first time in academics, which is necessary to be determined.

The study at hands will increase organizations’ awareness of sustainable innovation performance, business continuity planning and demographic factors for implementing corporate sustainability favorably, particularly at large scale firms (annual turnover minimum USD 250 million). Overall, some firms can implement and adopt corporate sustainability practices well and survive, while others fail. The reason of this can depend on sustainable innovation performance, business continuity planning and demographic factors. In this manner, this paper aims to help firms adopt and maintain corporate sustainability. The second goal of this survey is to search the potential moderating effect of sustainable innovation performance/business continuity planning on corporate sustainability.

This paper is crucial and useful for revealing the link among corporate sustainability, sustainable innovation performance, business continuity planning and demographic factors of large scale companies, also advising firms how to adopt and maintain corporate sustainability practices. This is essential for enterprises to be able to survive by integrating with the community and their environment.

2. Literature Review

2.1. Corporate Sustainability

Although there are many different factors lead to success, it is necessary to build a healthy and durable business relationship with the customers and the environment, which has a positive return for the organizations with time (Samaibekova et al., 2021:3). Companies have started to accept and comprehend the link between environmental issues and sustainability (Afsar et al., 2020:771). The notion of sustainability was first related with environment and preservation of resources. However, today it has been acknowledged as a landmark for the whole business society (Herbohn et al. 2014:423). The literature review has revealed that the analysts worked with various questionnaires for measuring the level of corporate sustainability such as Khalid et al. (2021:293-316) Corporate Sustainability scale, Dow Jones
Sustainability Index and the Kinder, Lydenberg, and Domini indices (Lo `pez et al., 2007:285-300; Barnea & Rubin, 2010:71-86).

A current survey identified that more than half of attendants accepts to pay more when firms are creating beneficial environmental & social effects (Kong et al., 2021:1499). In this sense, it has been reported that majority of the large corporate firms in the world issue corporate sustainability reports, while adding sustainability information in their routine financial statements (KPMG, 2017:1-56). Accordingly, latest studies demonstrated that most firms have started considering sustainability as a critical determinant of survival in the long term and therefore adopt training & awareness programs. Short-termism is not sustainable, and can’t be considered as a good strategy (Bansal & DesJardine, 2014:70-78). Simoni et al. (2020:1059-1087) stated that firms’ choice to publish their corporate sustainability reports is driven by the readiness to indicate their sustainability performance and the requirement to sustain positive relations with the stakeholders.

Sustainability is related with Elkington’s (1999) Triple Bottom Line approach which claims that business objectives can’t be separated from their communities and environments. Enterprises should review besides the financial bottom line of loss/profit (Purkayastha, 2019:4; Roberts, 2020:1-25). In this context, organizations are being questioned about how they commit to and support sustainability goals (Giles, 2000:235-252; Carroll, 2015:87-96). Corporate sustainability is a long term plan of action that integrates the earth and human beings. It is a business approach which forms long-term customer, shareholder and employee value by voluntary implementing green strategy against the social, cultural, and economic environment (Wikipedia, 2014). In this work model for-profit organizations take responsibility, accept and manage socio-economic risks for the wellbeing & benefit of the society and the company. Corporate sustainability can be confused with corporate social responsibility. Undoubtedly, corporate sustainability is more modern, broader, applicable and usable aspect of corporate social responsibility (Keijzers, 2002:349-359).

Ashrafi et al. (2019:386-397) reported that corporate sustainability’s driving factors are risk management, corporate citizenship and return on investment, while its challenges are charges, lack of capability and interest. Numerous papers have showed the influence of corporate sustainability on the success and performance of organizations and their employees (Barauskaite & Streimikiene, 2020:278-287; Wang & Sarkis, 2017:1607-1616; Shabbir & Wisdom, 2020:1-12; Kong et al., 2021:1499; Wagner, 2010:1553-1560). Durand et al. (2019:299-320), in their study asserted that there is a need to take distinctive actions rather than accepting corporate sustainability as a consistent and stable factor. These different reactions can vary between symbolic-substantive actions (Hawn & Ioannou, 2016:2569-2588), and material-immaterial environmental, social, and governance subjects (Khan et al., 2016:1697-1724). Subsequently, Ioannou & Serafeim (2019:34) suggested a novel differentiation among common and unique sustainability actions, whilst pointing that the ultimate set may also be strategic. They claim that particular and relevant actions can maintain to be difficult since they are represented by greater market & legal risks and ambiguity, which needs more novelty (Ioannou & Serafeim, 2019:34-35). Yet, it is hard to define abstract sustainability scope and targets into factual measures (Johnstone, 2019:34). Heggen et al. (2018:478-502) asserted that the extent of corporate sustainability can be formed by the environmental experts and champions. Furthermore, change agents may also effect by accepting the duties of activists and facilitators (Visser & Crane, 2010:15).

In addition, Crutzen et al. (2017) argued that ‘sustainable mind-packages’ are established on new staff, including the booked business functions. Taking the above into consideration, it can be concluded that individuals can affect the spread, assimilation and classification of corporate sustainability’ scope and its targets (Johnstone, 2019:37-39). Relevantly other research results revealed the influence of individual values and beliefs on the adoption of corporate sustainability (Wheeler et al., 2003:20; Hemingway & Maclagan, 2004:39).
Evidently, there are many theories applied in corporate sustainability throughout the literature (Swarnapali, 2017:9). One of the latest theory is the “Legitimacy” that is used to demonstrate corporate sustainability reporting methods (Vitolla & Rubino, 2017:1908-1921). This theory posits that enterprises use sustainability reporting for legitimacy which is crucial (Tilling & Tilt, 2010:55-81). Resource-based approach suggests that since successful corporate plan of actions provide new resources possibilities, resource-based justifications execute effectively for corporate sustainable development (Barrutia & Echebarria, 2015:70-82). Stakeholder theory argues that corporate sustainability revelations can be interpreted as an instrument for securing loyalty to the social contract (Hörisch et al., 2014:328-346).

Signaling theory has been acknowledged as a structure to define and describe the variation in sustainability disclosures (Hassan et al., 2020:391-410), where stakeholders can struggle to find out which firms are successful because sustainability disclosure reports are not mandatory and hence not applied to all markets (Mahoney et al., 2013:350-359).

2.2. Sustainable Innovation Performance

Lately, innovation has been widely discussed in the literature as an answer for developing sustainability performance. Likely, combining sustainability with innovation, in other words adopting the doing things differently approach can have critical positive effects on firm’s know-how (Nidumolu et al., 2009:56-64; Hall & Vredenburg, 2003:61-68).

Sustainability oriented innovation and sustainability related innovation terminologies can also be used in the literature for sustainable innovation, alternatively (Klewitz & Hansen, 2014:57-75). Sustainable innovation is establishing new workflows, services, products and technologies which support the favor of organizations and individuals, whilst protecting environment resources and nature (Tello & Yoon, 2008:164-169). These innovations are expecting to enhance social, natural and economic performance (Bos-Brouwers, 2010:417-435). Likewise, this study accepts any meaningful enhancement of product & service related factors which creates additional effective value and benefits, not only for organizations but also community and nature. This is necessary for posterity, as well. It should be acknowledged by the firms as a journey and long term goal.

There are many variables that push companies to sustainable innovation such as trade opportunities deriving from technological developments, new regulations, increasing corporate social responsibility expectations, client request for nature friendly goods & services (Tello & Yoon, 2008:164-169). Ketata et al. (2015:1-16) used the results of safety & health advancement and decline in resource consumption-environmental pressure, to measure sustainable innovation. They argue that sustainable innovation can be challenging as it rises complexity. In their research they identified that, investments in staff training is crucial and imperative for technological innovation (Ketata et al., 2015:1-16).

Mousavi & Bossink (2017:1263-1275) revealed the demanding managerial and organizational capabilities, how they can be initiated and maintained for sustainable innovation, align with the firms’ strategies. They declared that by building seizing, reconfiguring and sensing capabilities, companies may construct a sustainable innovation, which has an impact on the organization’s sustainability strategy, as well as on the value chain. In this sense, enterprises should pay attention at innovative fresh practices of business responsibilities, new ways of enhancing external relations, whilst supporting the ecosystem (Mousavi & Bossink, 2017:1263-1275).

Another study determined the roles of workers (citizenship, motivation and clarity) on sustainable innovation of a company by showing that developing organizational communication capabilities helps accomplishing sustainable innovation (Saunila et al., 2021:233-245). Bos-Brouwers (2010:417-435) indicated that when small medium enterprises merge sustainability with innovation at their processes and products &services, additional value can be created and collaboration with the stakeholders can be enhanced.

According to Kneipp et al. (2019:94-111) practically there is a positive link betwixt sustainable innovation practices and company performance. In their paper, they emphasized the importance of sustainable
innovation for creating competitive advantages, which leads to business performance while eliminating negative socio-environmental results (Kneipp et al. 2019:94-111).

Boons & Lüdeke-Freund (2013:9-19) suggested patterns of standardizing 'boundary conditions' which organizations need to perform for backing the sustainable innovations. Sustainable innovation includes environmental innovation with social aspects beside (Calik & Bardudeen, 2016:450). Sustainable innovation processes are challenging. Ambiguity complication stimulate companies to plan a strategy, which helps the organization to comply with the changes, preventing from failure (Mousavi & Bossink, 2017:1263-1275).

Ottosson et al. (2016:1-16) declared product development as most vital factor for new sustainable innovations. According to them the innovation project should include design creation, improvement and application to business. In this scope, product & service planners ought to be technically well trained and be coming form the core of the real work in consideration of competence and experience (Ottosson et al., 2016:1-16). Nidumolu et al. (2009:56-64) suggested that corporate and challenging organizations today accept sustainability as innovation’s new frontier. Corporate Nights and Innovest reveals the global 100 most sustainable corporations. In this report considerable number of sustainable firms are the same with the most innovative, which means there needs to be a relationship among sustainability and innovation (Vilanova & Dettoni, 2011:16). Not only corporate big scale but all corporations today need to accept and comprehend that sustainability is not a cost, however a critical asset where innovation is at the center for survival and for being competitive (Vilanova & Dettoni, 2011:26). Markatou (2012:1-10) identified that 15% of the new patents regarding natural resources are connected to sustainable innovation, which is specifically connected to environmental issues.

So far it can be concluded that sustainability sound to be a natural cause of innovation. These two concepts should be the main and common drivers of both mission & vision of a firm. Nowadays, there is a consensus of opinion that the following innovations tend to shape the sustainability in the near future: carbon capture & long term storage, electric transport, hydrogen in the energy transition (Rogers, 2019).

2.3. Business Continuity Planning

Today, corporations are subject to many risks: interruption as a result of natural disasters, electrical outage, supply chain and technology, employee disorder, cyber-attacks, regulations, economic crisis and competitors. Besides, other unforeseen dangers can easily and quickly overturn business life, as well. In this sense, recently there is an increasing curiosity and focus on the approach of business continuity planning under corporate risk management umbrella with the strategies of crisis, resilience and recovery management (Bajgoric, 2006:632-652). Increasing number of companies have recognized that their survival is more reliant on business continuity than ever before. Thus, it is vital that firms should make business continuity plans, adopt and implement them strictly (Bankole, 2016:2425-2431).

Business continuity planning can generally be defined as the process of determining the risks and making plans beforehand to mitigate them (Croy & Geis, 2005). Business continuity plans lead the business promptly resume during disruptions (Fani & Subriadi, 2019:275-282). The Business Continuity Institute and the Disaster Recovery Institute International determines the standards of business continuity plans (Dushie, 2014:185-191). These plans are also expected to be pursuant to business continuity management standard ISO 22301 (ISO, 2012). Business continuity planning involves: risk and impact measurement, mitigation action plan establishment, general staff awareness training, exercising and controlling (Fikri et al., 2021:50; Lindström et al., 2010:243-255). A well prepared business continuity plan must have a recovery timeframe and a check list for monitoring. It is expecting to be transparent and flexible for urgent changes. These steps mean cost and just to make things worse, organizations may face with lack of resources. Nevertheless, they should not stop and continue to make sacrifices for the sake of their future.
On the other hand, it must not be forgotten that business continuity plans still should be align with firms’ targets and objectives.

Haddow & Bullock (2006) pointed out adjustments in business continuity planning: the safety of workers, territorial effects of disasters and terrorism, information technologies - data protection & backup decentralization of business locations and human relationships. Dushie (2014:185-191) specified that business continuity plans can be influenced by considerable cost, staff shortage, inadequate interest and insufficient information. Likewise, another research demonstrated that lack of top management’s help, finance and resources are the leading challenges of business continuity plan implementation (Continuity Central, 2016). Besides, Mahendrarajah et al. (2021) revealed the significance of human resource for business continuity by forming a guidance to keep up all the business operations with the contribution of human resource experts. Employee’s lack of knowledge about business continuity plans may boosts the possibility of failure (Fani & Subriadi, 2019:275-282).

Adding the cost variable in the planning can be essential and crucial. Because, relevant past surveys disclosed that costs have the potential to effect the success of business continuity plans (Government, 2009:1-69; Tjoa et al., 2008:179-186). Furthermore, organizational culture can also shape the content of these plans extensively. Heng (2015:9-16) suggested that companies can take consultancy for ensuring effective business continuity management, which is necessary and vital for a workable business continuity plan. Distinct enterprises may have separate plans for achieving their goals because business continuity plans need to be a flexible to be revised pursuant to environmental and trade developments. These plans can have the power of preventing unwanted losses in case of correct management and implementation (Naill, 2010:272-279).

Yılmaz (2021:61-78) recommended a pandemic-specific business continuity model, which is formed for organizations operating in finance sector. His model composed of three stages: pre-work, implementation and completion. The proposed model includes:

- Assuring the safety and health of the staff at first,
- Taking into account the necessities of both the workers and the company,
- Getting the endorsement of the top management,
- Working from home,
- Having transparent and reciprocal communication,
- Being flexible, digitalization oriented and clear
- Taking consultancy for resilience and agility, when needed (Yılmaz, 2021:61-78).

3. Method

3.1. Model and Hypothesis

In the research the effects of the independent variables; (a) Sustainable innovation performance, (b) Business continuity planning, (c) Education level, number of staff, years of work experience, nationality, compliance department existence demographic factors, on the perception of the dependent variable “Corporate Sustainability” were questioned (see Figure 1).
A total of eight hypotheses, one of which is the main hypothesis, were tested in the study. The hypotheses were determined on the basis of the author’s predictions, align with his 21 years of professional work life experience:

Main hypothesis H1: The independent sustainable innovation performance and business continuity planning variables (moderator scores) jointly affect corporate sustainability (tested by simple regression analysis).

H2: There is a positive correlation between sustainable innovation performance and corporate sustainability (tested by simple regression analysis).

H3: There is a positive correlation between business continuity planning and corporate sustainability (tested by simple regression analysis).

H4. Education level effects corporate sustainability (tested by One-Way ANOVA analysis).

H5. Number of staff effects corporate sustainability (tested by One-Way ANOVA analysis).

H6. Years of work experience effects corporate sustainability (tested by One-Way ANOVA analysis).

H7. Nationality effects corporate sustainability (tested by One-Way ANOVA analysis).

H8. Compliance department existence effects corporate sustainability (tested by One-Way ANOVA analysis).

3.2. Sample, Population and Measurement Instruments

This descriptive area research’s applicable data were collected in 2019 from 311 employees, working in 12 international and 13 local large-scale corporate companies, operating in Türkiye. A questionnaire form was given to the participants by random method. Gender factor was not taken into account in data collection.

To examine the formed hypotheses, three different multi-item scales were used: Sustainable Innovation Performance-34 items (Calik & Bardudeen, 2016:449-454), the Open for Business-10 items (Institute for Business & Home Safety and the Public Entity Risk Institute, 2005) and the Corporate Sustainability-19 items (Khalid et al., 2021:293-316). The scales were translated to Turkish via “forward and backward” method, pursuant to six experts’ comments. In the questionnaires, the items were arranged in random order to avoid potential common method variance. Measurements were performed by using a five-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5).
3.3. Application and Statistical Analysis

The questionnaires were sent to the employee e-mail addresses obtained from the human resources of the relevant institution and necessary explanations were made about how to fill out them. The contact information of the researchers was written on the questionnaire so that the participants could reach the researchers if they wanted to receive additional information. In the e-mail, it was clearly stated that participation in the research is on a voluntary basis, and people who do not want, have the right not to answer the survey.

Q-Q Plot and Box Plot methods were used over the SPSS 21.0 software program and it was found that the data belonging to the composite variables defining the mean scores of all three scales, showed normal distribution (p > 0.05). The correlation among the conceptual structures and the demographic variables were tested by simple linear regression (principal assumptions are met which justifies the use of regression) and one-way analysis of variance, respectively.

4. Results

4.1. Analyses of Reliability and Validity

Content and face validity of scales were achieved after five experts’ reviews for suitability and clarity. Additionally, content validity ratios were calculated and found to be strong (CVR > 0.88). For the reliability (SPSS and Factor software) and validity analysis of the scales, factor analysis method was used to detect weak items and to determine the dimensional infrastructure of the scales, then reliability tests were performed.

The Kaiser-Meyer-Olkin (KMO) test result, which determines whether the sample size is sufficient and appropriate, is 0.94 for the Sustainable Innovation Performance scale (Chi-square 421.12; Degrees of freedom 88; Barlett's test score < 0.05), 0.89 for Open for Business scale (Chi-square 399.55; Degrees of freedom 86; Barlett's test score < 0.05) and 0.88 for Corporate Sustainability scale (Chi-square 404.89; Degrees of freedom 90; Barlett's test score < 0.05).

As a result of the factor analysis, 18 items with a value below 0.40 were eliminated from the scales. Eventually the whole survey consists of 45 questions. SPSS and FACTOR software indicated Cronbach’s Alpha and McDonald’s Omega scores are above 0.84; confirming the reliability of the three conceptual structures’ scales are significantly reliable.

Regarding common method variance test, the value of the common secret latent factor was entered as “1” at AMOS software. The standard factor loadings without and with this new factor remained below 0.20 and this result stated that this survey’s data is free from common method variance.

4.2. Descriptive Statistics

According to the data, 65% of the participants are local and 35% are international company employees (Table 1). The seniority (years of work experience) of 70% of the participants in the international company group is five years or more, and the seniority of 21 percent is between two and four years. 60% of the participants in this group have undergraduate degrees and the rest have postgraduate degrees. The years of work experience of 77% of the participants in the local company group is five years or more, and 13% of them are between two and four years. 90% of the participants in this group have undergraduate or higher education (Table 2).
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Table 1. The Demographic Variable of Nationality’s Descriptive Statistics Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean (Years of Work Experience)</th>
<th>SE</th>
<th>SS</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>109</td>
<td>5.04</td>
<td>0.61</td>
<td>7.91</td>
</tr>
<tr>
<td>Local</td>
<td>202</td>
<td>6.45</td>
<td>0.68</td>
<td>8.23</td>
</tr>
</tbody>
</table>

Table 2. Averages Scores of Corporate Sustainability by Demographic Factors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Factor</th>
<th>Explanation</th>
<th>N</th>
<th>Mean</th>
<th>SE</th>
<th>SS</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>Years of Work Experience</td>
<td>≥5 years</td>
<td>76</td>
<td>4.61</td>
<td>0.09</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-4 years</td>
<td>23</td>
<td>4.32</td>
<td>0.11</td>
<td>0.40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;2 years</td>
<td>10</td>
<td>3.70</td>
<td>0.06</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td>Education Level</td>
<td>High</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bachelor</td>
<td>65</td>
<td>3.90</td>
<td>0.07</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post Graduate</td>
<td>44</td>
<td>4.72</td>
<td>0.08</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>Number of Staff (Organization)</td>
<td>&gt;2.000</td>
<td>8</td>
<td>4.42</td>
<td>0.05</td>
<td>0.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;2.000</td>
<td>4</td>
<td>3.86</td>
<td>0.31</td>
<td>0.77</td>
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<tr>
<td></td>
<td>Compliance Dep. Existence (Organization)</td>
<td>Yes</td>
<td>10</td>
<td>4.84</td>
<td>0.12</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>12</td>
<td>3.62</td>
<td>0.09</td>
<td>0.68</td>
</tr>
<tr>
<td>Local</td>
<td>Years of Work Experience</td>
<td>≥5 years</td>
<td>155</td>
<td>4.02</td>
<td>0.06</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-4 years</td>
<td>26</td>
<td>3.72</td>
<td>0.14</td>
<td>0.76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;2 years</td>
<td>21</td>
<td>3.12</td>
<td>0.05</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>Education Level</td>
<td>High</td>
<td>20</td>
<td>2.44</td>
<td>0.16</td>
<td>0.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bachelor</td>
<td>141</td>
<td>3.35</td>
<td>0.08</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post Graduate</td>
<td>41</td>
<td>3.73</td>
<td>0.04</td>
<td>0.37</td>
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<tr>
<td></td>
<td>Number of Staff (Organization)</td>
<td>&gt;2.000</td>
<td>8</td>
<td>3.89</td>
<td>0.05</td>
<td>0.48</td>
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<td></td>
<td></td>
<td>&lt;2.000</td>
<td>5</td>
<td>3.12</td>
<td>0.07</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td>Compliance Dep. Existence (Organization)</td>
<td>Yes</td>
<td>4</td>
<td>3.81</td>
<td>0.08</td>
<td>0.41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>9</td>
<td>3.24</td>
<td>0.11</td>
<td>0.91</td>
</tr>
</tbody>
</table>

International firms: For those whose years of work experience is “less than 2 years”, the average corporate sustainability score M = 3.70; SE = 0.06; SS = 0.33, “between 2-4 years” M = 4.32; SE = 0.11; SS = 0.40 and for “≥5 years” M = 4.61; SE = 0.09; SS = 0.39. Regarding education level, the mean scores for “bachelor” M = 3.90; SE = 0.07; SS = 0.38 and for “post graduate” M = 4.72; SE = 0.08; SS = 0.39. According to the number of staff, the mean scores for “>2.000” M = 4.42; SE = 0.05; SS = 0.59 and for “<2.000” M = 3.86; SE = 0.31; SS = 0.77. Lastly, regarding the compliance department existence, the mean scores for “Yes” M = 4.84; SE = 0.12; SS = 0.64 and for “No” M = 3.62; SE = 0.09; SS = 0.68.

Local firms: For those whose years of work experience is “less than 2 years” the average corporate sustainability score M = 3.12; SE = 0.05; SS = 0.64, “between 2-4 years” M = 3.72; SE = 0.14; SS = 0.76 and for “≥5 years” M = 4.02; SE = 0.06; SS = 0.58. Regarding education level, the mean scores for “high school” M = 2.44; SE = 0.16; SS = 0.68, regarding “bachelor” M = 3.35; SE = 0.08; SS = 0.54 and for “post graduate” M = 3.73; SE = 0.04; SS = 0.37. According to the number of staff, the mean scores for “>2.000” M = 3.89; SE = 0.05; SS = 0.48 and for “<2.000” M = 3.12; SE = 0.07; SS = 0.58. Lastly, regarding the compliance department existence, the mean scores for “Yes” M = 3.81; SE = 0.08; SS = 0.41 and for “No” M = 3.24; SE = 0.11; SS = 0.91 (Table 2).

According to these data, the average scores of corporate sustainability increases as years of work experience, number of employees and education level boost in both international and local companies. In addition, companies possessing a compliance department have higher corporate sustainability scores.
than those without. The highest corporate sustainability average scores in the companies participating in the research are “≥5 years” for years of work experience, “>2.000” for number of staff and “post graduates” for education level.

When the findings of the study are examined, it has been determined that more than half of the employees in international companies and 35% of the local ones, have corporate sustainability scores above 4. These people have understood and adopted the corporate sustainability practices of their organizations and have shown that they support them. The fact that twenty people in total have their corporate sustainability scores below 3, can be interpreted as there are still some hesitations about this issue among 6% of the employees.

4.3. Hypothesis Testing Results

At the first level, the relationship between sustainable innovation performance/business continuity planning moderator variable and corporate sustainability, at the second level the link among sustainable innovation performance, business continuity planning and corporate sustainability, lastly the correlation between demographic factors and corporate sustainability, were tested.

The principal assumptions of the regression analysis used to test the main hypothesis determined as “The independent sustainable innovation performance and business continuity planning variables (moderator scores) jointly affect corporate sustainability” were met (VIF = 3.00; Durbin Watson = 1.91; there is no correlation between error terms). R-Squared (R² - the coefficient of determination) value was found to be 0.31 (p = 0.001 < 0.05). This value revealed a result that the moderator effect of two independent variables influenced the dependent variable corporate sustainability, and thus the main hypothesis was accepted.

The principal assumptions of the regression analysis used to test the second hypothesis determined as “There is a positive correlation between sustainable innovation performance and corporate sustainability” were also satisfied (VIF = 4.30; Durbin Watson = 2.17; there is no correlation between error terms). R² value was calculated as 0.24 (p = 0.003 < 0.05). Since the sustainability innovation performance variable explains 0.24 of the change in corporate sustainability, which is the dependent variable, the second hypothesis was accepted.

Likewise, the principal assumptions of the regression analysis used to test the third hypothesis determined as “There is a positive correlation between business continuity planning and corporate sustainability” were provided (VIF = 3.90; Durbin Watson = 2.01; there is no correlation between error terms). R² value was calculated to be 0.19 (p = 0.007 < 0.05). Since the business continuity planning variable determines 0.19 of the change in the dependent variable corporate sustainability, the third hypothesis was accepted, as well.

It was seen through the Levene test that the ANOVA test used in the hypotheses involving demographic variables, provided the pre-conditions. ANOVA table scores [F (9, 111) = 0.20; p = 0.003 < 0.05] exposed a statistically significant difference between the variables and H4 was accepted. Next, hypothesis H5 was also accepted after obtaining F (5, 78) = 0.19; P= 0.005 < 0.05 values, revealing that number of staff is an effective variable in determining corporate sustainability. Eventually, the remaining H6 [F (11, 283) = 0.30; P= 0.000 < 0.05]; H7 [F (7, 73) = 0.42; P= 0.008 < 0.05] and H8 [F (21, 448) = 0.22; P= 0.004 < 0.05] hypotheses were confirmed after finding statistical significance.

5. Conclusion

Today, we know that the organizations which focus only on business benefits by ignoring socio-economic and environmental factors, led their work be unsustainable in the long term. Evidently, similar to other surveys the research has shown that sustainable innovation performance and business continuity planning not only separately but also jointly influences corporate sustainability (Powe, 2020:1523-1527; Miller, 2011:219-232; Maier et al., 2020:4083)

Thomson & Thomas (2017:23-24) claimed that corporate sustainability needs more consideration on individuals. From this point of view, demographic variables were also added to the research model. The
thesis that there may be a difference between corporate sustainability scores according to the factors of education level, number of staff, years of work experience, nationality, compliance department existence has also been confirmed (Ahmed et al., 2021:10335–10356). In this regard, as the education level, number of staff, years of work experience increase in companies and having a compliance department has an effect that feeds corporate sustainability in the institution. Furthermore, it can be said that these factors affect corporate sustainability more in international companies than in local companies (McLean & Borén, 2015:1489–1506).

Achieving these results in parallel with expectations shows that corporate sustainability awareness and practices in large corporate organizations are strong (Batista & Francisco, 2018:226). In general, as organizations grow and become corporate, the possibility of strengthening corporate sustainability increases. This research also provides some managerial implications to enterprises, especially large scale firms. Essentially, by the guidance of this paper enterprises may appreciate the effect and necessity of sustainable innovation performance and business continuity planning for corporate sustainability. Furthermore, as education, number of staff, years of work experience, nationality and compliance department existence demographic factors effect corporate sustainability, corporations are suggested to recruit more staff with higher education level and longer work experience. Because these personnel embrace the corporate sustainability procedures disregarding of their roles and duties. Besides, it is recommended to have/set up a compliance department at the organization and take international firms as a benchmark. Lastly, corporate sustainability together with sustainable innovation performance and business continuity planning can’t assure success at all times. Therefore, this paper recommends organizations to strengthen their business continuity, innovation and sustainability action plans with internal controls while training their employees as well for creating better outcomes in the mid and long terms (Lueg & Radlach, 2016:158-171).

Although the findings of the present study are relevant with the literature, regarding the future researches it is also suggested to (a) differentiate and enlarge the population, (b) explore the mediator effects of the variables, (c) add new variables and factors to the model, (d) perform a pilot survey, (e) add an irrelevant marker variable whilst using reverse scored items in scales, for avoiding common method variance. Another recommendation is that, as a relatively new subject which won’t lose its currency in the long term, it can be studied in the academic field at any time for discovering the direction of its evolvement.

The main contribution of this paper is that, it demonstrates to be the sole research which studies the relation among corporate sustainability, sustainable innovation performance and business continuity planning, with its antecedents and consequences in the context of large scale firms performing in a developing country, Türkiye in particular. However, the outcomes of this survey are binding under these limitations: (a) the data were gathered from a limited number of (12 international and 13 local) large-scale corporate firms’ employees, operating only in Türkiye, (b) it does not include gender comparison, (c) time-varying firm characteristics were omitted, (d) despite precautions had been taken to prevent social interaction among participants working at the same place, there is still a possibility of affection.

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**Çıkar Çatışması/ Conflict of Interest**

Yazar(lar) çıkar çatışması bildirmemiştir.
The authors have no conflict of interest to declare.

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Abant Sosyal Bilimler Dergisi - https://dergipark.org.tr/tr/pub/asbi

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