

Adaptation of green culture, innovation, green performance in the organization in order to achieve economic and social sustainability

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Abstract

Today, the development of products and services is vital for companies that want to compete in existing markets as well as in new markets. Therefore, companies can improve their green image by improving their environmental performance, which in turn helps to create new business opportunities and improve competitive advantage. Whereas the relationship between culture and organization is like the relationship between personality and individual, the concept of organizational culture is considered as an effective factor in the productivity and performance of the organization, and if the appropriate work culture is well developed between management and employees, it will lead to consolidated organizational commitment, promotion of morals, higher performance and productivity. Therefore, in this research, the relationship between adaptations of green culture, innovation, green performance to achieve sustainability is investigated. This is a descriptive survey and applied research. The results indicate that the adaptation of green culture on innovation has a positive and significant relationship. Innovation has a positive effect on green performance to achieve sustainability and employee commitment. Employees' commitment to green performance to achieve the sustainability, has a positive and significant relationship. At the same time, the mediating role of employees' commitment was confirmed.

Keywords: green culture, innovation, green performance, sustainability, employee commitment

1- Introduction

Green human resource management, as a branch of sustainable human resource management, is considered a new topic in the field of human resource management and this principle emphasizes the

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goal of environmental sustainability. On the one hand, the ever-increasing environmental challenges and on the other hand, the neglect of the sustainable approach to human resources in domestic studies and the vagueness of this concept for researchers, have encouraged the author to investigate further in this field. The sustainable performance approach can describe the management processes of planning and strategic management in order to balance economic, social and environmental goals and values. The sustainable approach examines the improvement of more than one dimension of performance and attention to other performance consequences that are different from its traditional theory (Nozari & Ghahremani-Nahr, 2023 , Movahed et al., 2023).

While the traditional theory of performance only evaluates the responsiveness and flexibility of the company in terms of sales and market share. The sustainable performance of people's health and safety standards and the increase in the use of renewable and clean resources and the reduction of waste disposal have added to the economic dimension. This concept shows the importance of the company's stakeholders more than before in performance review. Green innovation is one of the most important strategic tools that organizations use to achieve sustainable development in response to environmental pressures. Green innovation includes the use of new products, methods and materials to reduce the use of natural resources and limit the discharge of harmful substances into the environment. Green innovation is the exploitation, production or absorption of a process, a service or a product or a new system and management method for the organization. Green innovation seeks to improve the efficiency of the organization considering the environmental considerations. Pollutions, environmental risks and other negative effects of resource use throughout the life cycle of the product/service with innovation, stated that green innovation enables companies to pursue the environmental benefits and green economic goals at the same time. Green innovation leads to the reduction of environmental damage. Green innovation leads to reduction of pollution, environmental risks and other negative effects of using products and services. Green innovation can be divided into three categories: green product innovation, green process innovation, and management/system innovation. The existence of green innovation in the organization leads to the improvement of the environmental performance of the organization. In several researches, the impact of green innovation dimensions, including green product innovation, green process innovation and green management innovation, on environmental performance has been confirmed (Bathae et al., 2023).

Organizational culture is the atmosphere that dominates the environment of the organization in which people are active and their behavior is shaped, which plays a significant role in the performance of the organization's employees. Whereas manpower is considered the rarest and most expensive capital of any type of organization; usually, the low performance of employees is one of the organizational problems. Since today, aligning with the environment and reducing the created damage in it by companies and how they operate, and at the same time maintaining the company's competitive advantages and creating innovation to progress and keep pace with the growing markets, are the most important concerns of organizations, creating a culture of innovation and using different dimensions of innovation in the organization seem necessary. Despite the importance and advantages of green innovation, the participation of organizations in this innovation is less than expected. Some organizations refuse to deal with the difficulties of innovation due to getting used to routine procedures and processes. Some companies seriously and realistically try to participate and invest in green innovation, but they may fail due to their inability to overcome obstacles and fail to create a green product/service or process. The success of green innovation depends on the company's ability to overcome its obstacles. Organizations have little awareness of green innovation barriers that prevent them from achieving the benefits of this innovation. A green innovation often faces many obstacles to adoption. Perhaps one of the reasons for managers' lack of attention to green innovations or environment-friendly is known the lack of their awareness of its benefits, its advantages and obstacles of applying it in the organization.

Therefore, in the current research, we decided to examine the relationship between green culture adaptation, innovation, and green performance to achieve sustainability. The main question we seek to answer, is the relationship of green culture adaptation, innovation, green performance to achieve sustainability and what is the mediating role of employee's commitment.

2- Literature review

Sustainable business principles lead to reducing unnecessary risk, avoiding waste generation, increasing material and energy efficiency, innovating new environment-friendly products and services, and obtaining operational approval from local communities. Therefore, adopting the principles of business sustainability can bring more profit for the company and maintain its activities in the long term. Despite the importance and advantages of green innovation, the participation of organizations in this innovation is less than expected. Some organizations refuse to deal with the difficulties of innovation due to getting used to routine procedures and processes. Some companies seriously and realistically try to participate and invest in green innovation, but they may fail due to their inability to overcome obstacles and they cannot create a green product/service or process. The success of green innovation depends on the company's ability to overcome its obstacles. Organizations have little awareness of green innovation barriers that prevent them from achieving the benefits of this innovation. A green innovation often faces many obstacles to be approved. Perhaps one of the reasons for managers' lack of attention to green innovations or environment-friendly is the lack of awareness of the benefits, advantages and obstacles of its implementation in the organization.

Green performance minimizes waste and decreases organizational costs (Chen et al., 2018). The change in the structures of the global markets in different fields and subsequently the demands with sustainability capabilities have forced organizations to redefine their business models and processes to respond to the environmental needs of the market (Chang and Hong, 2018). Ashlatger and Wagner have defined green performance as reducing the environmental impact of companies, which is achieved through coordination and cooperation between businesses and environmental concerns. Green performance can be measured by various indicators. These indicators include the use of water resources, energy, non-renewable resources, toxic inputs, solid waste water, soil pollution, sewage emission, air pollution, noise pollution, and emission of bad smells and destruction of environmental landscapes (Skaltag and Wang, 2004).

Manjat et al. (2021) proposed a model that investigates empirically the effect of environmental regulations, top management commitment and organizational learning towards green product innovation (GPI). The findings indicate the importance of top management commitment and organizational learning for green product implementation (in response to regulations) and achieving optimal performance. Furthermore, organizational learning is fully mediated between top management commitment and green product. Findings can be useful for managers of automotive companies who are interested in green product implementation Merask et al. (2021). This study considers the relationships between leadership methods and leadership skills (sustainability leadership, innovation leadership, and sustainable innovation) as drivers of sustainable innovation capability in the context of a Michelin-starred restaurant. Leadership method is seen as the key to manage innovation in the field of excellent cuisine.

However, the interviews revealed that the issue of environmental sustainability is less important when considering culinary innovations due to customer expectations and insufficient legislation or government incentives. The external factors of market demand, participation of a range of stakeholders, and guest values/needs were considered as key determinants of innovation type, success, and orientation. Internal factors of fit with the business vision, consumer loyalty to the brand, and employee skills and engagement were identified as key drivers of innovative decision-making and success. Kova et al. (2021) conducted research titled "Green Core Competencies to Increase Green Absorption Capacity and Strengthen Green Innovation: The Moderating Role of the Organization's Green Culture". The main objective of this study is to propose a new framework that increases the green core competency of green absorptive capacity and green innovation performance of the tourism industry. Furthermore, green absorptive capacity mediates the relationship between green core competence and green innovation. And finally, green organizational culture moderates the relationship between green absorptive capacity and green innovation. Data were collected from various hotels and restaurants in Northeast China, which implemented environment friendly green practices through convenience sampling. Green core competency positively and significantly affects green innovation performance, and green absorptive capacity mediates the relationship between green core competencies and green innovation performance. In addition, green organizational culture partially moderates the relationship between green absorptive capacity and green innovation Zhao et al. (2022). To investigate the mechanism of the impact of green human resource management on the green behavior of employees,

employees at all levels of a company were selected as research subjects, and a mediation model was established based on social exchange theory and person-environment matching theory. . This paper examines corporate green human resource management, personal green behavior, relational psychological contract, environmental knowledge, and green values.

Green human resource management has a significant positive predictive effect on employees' green behavior, relational psychological contract has a mediating role between green human resource management and employees' green behavior, and the mediating role of relational psychological contract is regulated by environmental knowledge and green values. Erkasen et al.'s (2022) study measured prospective employees' (students') perceptions of organizations that practice green HRM and how these perceptions could influence their future green behavior in the workplace. The research sample included students from the largest university in Northern Cyprus, and 400 questionnaires were administered with 342 valid answers.

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3- Research method

Research can be defined as the objective and systematic analysis and recording of controlled observations that may lead to the development of general laws, principles or theories and lead to the prediction or possibly the ultimate control of events. Research emphasizes general laws, principles, or theories that are useful for predicting future events. In this research, the following steps are implemented respectively: Fig (1) shows it.

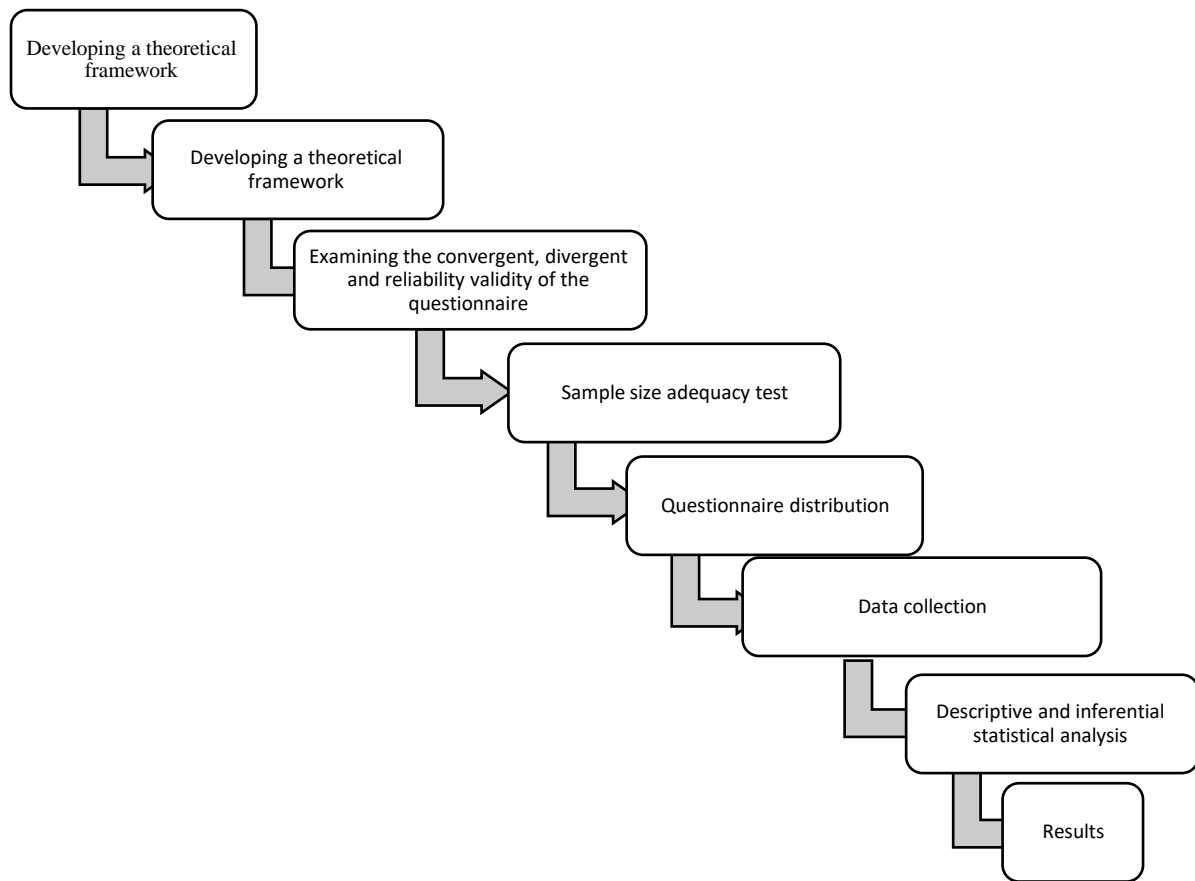


Fig1: Research method execution

The present research is an applied research with the aim of developing applied knowledge and solving a specific scientific or social problem. It is based on the need for a descriptive hypothesis. The method used to analyze the data in this research is the use of quantitative methods that are carried out in the form of descriptive and inferential statistics.

4- Data analysis

In this section, using statistical techniques and according to structural equation method, the data obtained from the research and the information obtained from the questionnaires are analyzed. For this purpose, using spss and Amos software, initial calculations are done at first, and then it is analyzed.

Considering the obtained variables and the goals and hypotheses defined in this research, statistics were calculated using the values of the samples, and then with the help of estimation or statistical hypothesis testing, the statistics were generalized to the parameters of the society. To analyze the data and test the hypotheses of the research, the sampling method was also used. The parameter of the index obtained from the statistical population was carried out using the census method and the index obtained from a sample of n of the population was called the statistical population. In this research, the parameters related to the measurement of the questionnaire were first examined, and in the next step, the output of the structural equation method technique is expressed.

In this research, this test was done in the SPSS environment. This value is equal to 0.783, which is an acceptable level. Structural equation modeling is in fact a very accurate multivariate analysis method that provides the possibility of testing equations at the same time. Analysis of covariance structures or structural equation modeling is one of the main methods of analyzing the structure of complex data and one of the new methods for examining cause and effect relationships, and it means the analysis of various variables that are in a theory-based structure, shows the simultaneous effects of variables. Amos software performs structural equation modeling in a graphical way so that the equation model can be defined at high speed and accurate calculations can be performed on it. As seen in Figure 2.

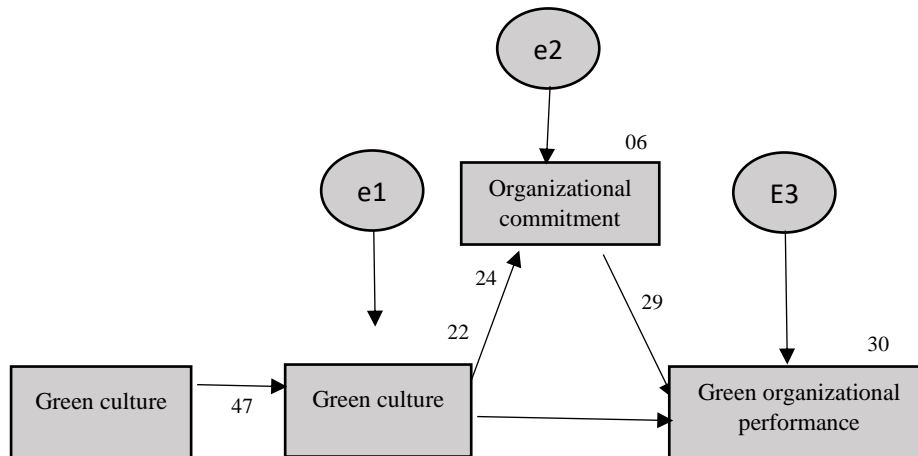


Fig 2: Graphic view of Amos output model in standard mode

Based on the output of the software and the analysis, the results of the research assumptions are shown in Tables 1-4. The results of the main hypotheses are also given below.

Table 1: The result of the first hypothesis

hypothesis	significance level	critical value	path coefficient	result
adaptation of green culture has a positive and significant relationship with innovation	0.000	7.768	0.47	Is confirmed

In order to investigate this hypothesis, the relevant path coefficient was calculated in Amos software, which is equal to 0.47. On the other hand, the direct effect of these two parameters was confirmed at a significance level of less than 0.05 and a critical value of 7.768.

Table 2: The result of the second hypothesis

hypothesis	significance level	critical value	path coefficient	result
Innovation has a positive and significant relationship with green performance to achieve sustainability	0.000	6.619	0.40	Is confirmed

In order to investigate this hypothesis, the relevant path coefficient was calculated in Amos software, which is equal to 0.40. On the other hand, the direct effect of these two parameters was confirmed at a significance level of less than 0.000 and a critical value of 6.619.

Table 3: The result of the third hypothesis

hypothesis	significance level	critical value	path coefficient	result
Innovation has a positive and significant relationship with employee commitment	0.000	3.63	0.24	is confirmed

The path coefficient for this relationship is equal to 0.24. On the other hand, the direct effect of these two parameters was confirmed at a significance level of less than 0.05 equal to 0.000 and a critical value of 3.63. Which confirms the positive and significant relationship between these two variables.

Table 4: The result of the fourth hypothesis

hypothesis	significance level	critical value	path coefficient	result
Employees' commitment has a positive and significant relationship with green performance to achieve sustainability	0.000	4.916	0.29	is confirmed

The path coefficient for this relationship is equal to 0.29. On the other hand, the direct effect of these two parameters was confirmed at a significance level of less than 0.05 equal to 0.000 and a critical value of 4.916. Which confirms the positive and significant relationship between these two variables.

In order to perform inferential statistics, the questionnaire was evaluated for the adequacy of the sample size, validity and reliability. Which was acceptable in all three cases. Finally, the analysis was done with structural equation method using AMOS software in order to answer the research hypotheses.

5- Conclusion

Companies can differentiate themselves from competitors by improving product quality and reducing production costs through environment friendly products and green processes. Green innovation has become one of the important strategic tools to achieve sustainable development in industrial production due to increasing environmental pressures. Appropriate and correct use of human resources to improve and promote the organization's environmental measures and create more commitment and awareness among employees regarding environmental issues. In general, green human resources management measures refer to the fact that human resources should be redesigned or re-engineered in a way that is sensitive to laws, policies, resources, proper consumption, not wasting, etc. and thereby cause optimal and targeted consumption of resources and reduce environmental pollution. In order to achieve environmental goals, environmental issues must be defined and implemented in various human resource management measures, including recruitment and recruitment, training, performance evaluation and reward. Also, the management of the organization should be committed to environmental issues. These activities, in addition to leading to efficiency and effectiveness, reducing costs, creating cooperation between employees and sustainability, create a positive mental image of the organization among members of the society, gain acceptance and social legitimacy, and improve the performance of the organization. Another key factor that drives the organization to adopt green innovation is the market demand for green products. It is very important for companies to be able to understand market demand as an influential factor in increasing company performance. Performance is one of the fundamental concepts in management, which refers to the way organizational operations are carried out. Therefore, the success of any organization can be related to its performance. Performance is defined as the process of explaining the quality of effectiveness and efficiency of past actions. According to this definition, performance is divided into two parts: the first part, effectiveness, which describes the extent to which organizational goals are achieved. The second part of it is productivity, which shows how the organization uses the available resources in the production of products and services. Over time, customers will become increasingly aware of green products and will likely demand more green products. This makes the company apply green product innovation and use environment friendly processes in order to produce sustainable products, respond to market demand and achieve competitive advantage. A company's green process innovation measures will be beneficial in increasing its financial performance. First, green process innovation improves existing production processes or adds new processes to reduce adverse environmental impacts. Therefore, compliance with the environment, improves the company's performance and creates a competitive advantage and differentiation for the company. Green organizational culture refers to a system of common meanings that is maintained by the members of an organization and separates an organization from other organizations. This system consists of common meanings and a set of key features that the organization values. Today's world has caused an increase in pollution, environmental problems, and countries' concerns about the environment. With the increase of environmental concerns from consumers, governments and different communities around the world and manufacturing companies are trying to develop environment friendly programs such as green product development, green brand and green technology, these concerns have been extended to various industries. Today, one of the important

factors in the activities of companies, from the supply of raw materials to the production process of a new product in the factory and the issues that arise during the use of the product by the consumer, is environmental considerations. The existence of green innovation in the organization leads to the improvement of the environmental performance of the organization. The impact of the organizational culture on the members of the organization can include: the behavior, feelings, views and attitudes of the members of the organization. With the lever of organizational culture, it is easy to facilitate changes and create new orientations in the organization in order to promote the innovative organization. Green product innovation is recognized as a strategic tool to achieve a competitive advantage that the research and development unit must know the customer's needs and always check the level of competition of the new green product as well as the technical evaluation and economic and commercial feasibility for the new green product. In general, green product innovation regarding the environmental considerations includes the simultaneous improvement of product quality and variety. Green product innovation not only protects the natural environment, but also provides more environmental benefits than conventional products. Therefore, green product innovation can be a tool for companies to achieve sustainable development and to achieve their business goals. Green process innovation is used to reduce energy consumption during the production process or during processes that convert waste into valuable materials.

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