

## ADOPTING GREEN INNOVATION CONCEPT IN ECONOMIC INSTITUTIONS

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**ABSTRACT:** *This research paper aims at defining the conceptuel and theoretical Framework of green innovation, including its narrow and broad concept, at institution. In addition to its elements, dimensions, goals, and identifying its relationships to the green label and the sustainable environmental competitive advantage. Furthermore, it selects the main challenges facing its application in institutions. The results obtained from the research confirmed that, Lack of theoretical studies dealing with “green innovation” concept; Adopting “green innovation” concept by economic institutions enables them to achieve competitive preferences against their competitors; Economic institution, clients, and environment highly gain benefits, resulting from the application of “green innovation” concept.*

**KEYWORDS:** green innovation, green label, green product, green innovation, organizational innovation

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### INTRODUCTION

The continuous effort to protect earth from pollution "either air, land or water pollution" which is the result of the negative behaviors of human beings, results in forming organizations to protect the environment and all living creatures. Hence, the focus began on developing environmentally friendly products with low negative impact on the environment, this behavior has positive results on the field of energy saving and waste recycling ... etc. Which contributes in reducing pollution and achieving competitive precedence thanks to increase the customer's awareness about the need of obtaining products that protect the environment in addition to the social responsibility that institutions feel towards society. We present in this paper: adopting green innovation concept in economic institutions, it includes five elements: what green innovation is, its forms, conditions and requirements, obstacles and challenges, the economic and social implications of adopting green innovation in economic institutions.

The importance of this research comes from its contribution to identifying the extent to which economic institutions adopt green innovation through the application of its concept in the narrow and broad field. This importance also lies in highlighting the relationship of green innovation with the green seal and the sustainable environmental competitive advantage in light of the challenges of its application in institutions.

Objectives of the study:

- Recognize what green innovation is;

Highlighting the relationship between green innovation and the green seal;

- Identify the most important interactions between green innovation and sustainable environmental competitive advantage;

Extracting the most important results that can help economic institutions to achieve excellence support through green innovation.

### **What green innovation is?**

Green innovation term dates back to the beginning of the seventies, during the public discussions on the green innovation process at the Stockholm Conference (1972) of the United Nations, which was concerned with the defense and improvement of the human environment for current and future generations. The literatures of this concept have been increased and developed rapidly with the beginning of the new millennium. (Manal Abdul-Jabbar, 2019. 17)

In order to define green innovation, we have to define innovation first; it can be summarized as follows: (Muhammad, 2003. 12)

### **Definition of innovation:**

Ferry defined innovation as: "any new idea, practice, or expression to the individual who adopts it." Consequently, the focus is not on the degree to which the idea differs from the established ideas, but rather on its adoption. Peter Drucker (P.F.Drucker) has defined innovation as "the organized abandonment of the old, confirming what Schumpeter said that innovation is a creative demolition." (Najm Abboud, 2003, A22) Innovation is defined as "a dynamic mental process requiring that innovative thinking be one of its inputs to develop ideas or create new ways to use the existing products emphasizing on innovation must be something better. The dynamism of innovation can be described as a cycle of role revolving around innovation and change so that this cycle is not linear. (Heba Mustafa, 2017. 63).

From the above, we conclude that there is a relationship between creativity and innovation so "every innovation begins with creative ideas, individual's creativity and team's is the starting point of innovation. The former is necessary, but an insufficient condition. This definition indicates that there is an inherent relationship between creativity and innovation; means that, there will be no innovation without the presence of creative ideas, which start at the level of innovative individuals and work teams, who are the basis of the creative process. Although, their presence is necessary for innovation yet it is not sufficient, so that there are other factors affecting innovation must be available. As this definition indicates, a person is the essence of innovation. (Heba Mustafa, 2017. 63) Thus, we can express the relationship between innovation and creativity by the following equation:  $\text{innovation} = \text{creativity} + \text{application}$ .

Thus, creativity is the associated part with the new idea, while innovation is the concrete part associated with applying or shifting from the idea to the product. Therefore, creativity and innovation are seen as two successive stages.

**Green innovation concept:**

Green innovation means, "Innovating products or production processes aimed at solving the environmental problems resulting during the product life cycle." (Al-Talbi, 2018. A 356). On one hand, it was defined as "new or modified operations that include technical, administrative and organizational innovations that help to preserve the surrounding environment." (Al-Talbi, 2018. A 356). Green innovation is "finding methods and techniques that contribute to reduce the negative impacts of the production processes and products on the environment to ensure environment sustainability in the interest of current and future generations."

There are two perspectives for green innovation: the narrow perspective and the broad perspective. (Najm Abboud, 2012. 492-493)

The narrow perspective of green innovation means that, "Innovation is reaching what is new, where new means breakthrough, great progress and a leap by which the product surpasses all the products that preceded.

As for the broad perspective: he believes that innovation is not necessarily a breakthrough to completely reach a new one, but rather that it may be improving and modifying the product which is important for both market and customer, it means that innovation is a continuous improvement. Hence, green innovation is considered within the broad innovation concept that relates to: (Heba Mustafa. 2017, 71-72)

- A new process or product that is sustainable such as: using solar cells to benefit from the sustainable energy of the sun;

- improving products continuously is applied through total greening at the company level, greening the company's administrative systems, and greening products, whether they are goods or service. For instance, innovation in non-cash marketing which avoids the use of paper money, as well as the use of improved engines, which are Boeing engines, to reduce the disturbance complained of by residents living near airports in order to achieve an environmental advantage and discover solutions earlier. (Heba Mustafa, 2017. 71-72).

From the above, a comprehensive definition of green innovation can be given as "innovation in products and processes that contribute in reducing the environmental burdens resulting from products and production processes, which can lead the institution to achieve sustainable competitive advantages." (Amer Rajab, 2019 A137)

**The importance of green innovation:** it is highlighted through: (Al-Talbi, 2018, 357-358)

- Reducing pollution;
- Improving the environmental performance;
- Improving the productivity of (resources, increasing energy efficiency and reducing wastes, as well as reducing the costs of the produced materials).

**The Benefits of green innovation:** The benefits can be concised as follows: (Al-Talbi, 2018. 357-358)

- obtaining commercial rewards from creating environmentally sustainable products.
- Realizing financial benefits that can increase the institution's competitiveness.
- Improve the environmental management performance to meet the environmental requirements and laws. Green innovation plays the mediating role between environmental ethics and competitive returns.
- It is the key to improve the competitive advantage in an increasingly environmentally conscious world.
- It provides the opportunity to meet customers' requests without harming the environment.
- It can improve the company's performance.
- Achieving the efficient use of resources and energy.
- reducing costs and increasing revenues.

### **Elements of Green Innovation:**

A number of researchers agreed that green innovation's elements are: Green product; Green process; Organizational innovation. (Najm Abboud, 2015. 357-358)

The following is a concise illustration of each of element:

#### **Green product:**

**Its definition:** Green product is the process of modifying the use of natural resources and raw materials with conformity to the environmental requirements and standards, modify the existing production processes mainly to reduce spoilage during the production processes and reduce pollution levels to the lowest possible degree.

It is also defined as “the application of creative ideas in designing, manufacturing and marketing new products that are modern, green and more environmentally friendly” (Rafaa, 2019. 73)

**Green product's goals:** The green product aims to achieve the following goals: (Abdullah, 2012. 51)

- Conserving energy and natural resources that are various;
- Reducing pollution, which includes products or services that provide clean energy, prevents treats, reduces or controls it.
- Measuring environmental damages to water, air and soil, also remove transportation or storage effects.

**importance of green product:** The importance of the green product is evident in the following aspects: (Biswas, 2016. 358)

- The ability to conserve resources;
- Having the least negative environmental impact in all product life cycle stages;
- The possibility to be recycled.

#### **Green process**

**Definition:** it is to eliminate waste by repeating the existing production process or system so that the same thing is reached at the end of the production line, so it is recycled and used again. This concept contributes in treating the social and

environmental impacts of pollution as well as controlling work environment and reducing incurred costs due to the defect in methods of production. (Balan, 2008. 10)

In one hand, it is defined as "modifying manufacturing processes and systems to produce environmentally friendly products that meet environmental goals such as energy saving, pollution prevention and waste recycling. (Ganzer, 2017. 323)

It has also been defined as "the application of creative ideas that lead to the adoption of those practices, which have the permissible negative impact on health and protection also on the life of organisms and society, health, culture, and economy" (Rafa, Al-Sunnah. 73)

**Importance of the Green Process:** The importance of the green process can be summarized as follows: (Herrero, 2009. 09)

- It helps to optimize resources use and reduce pollution;
- It helps to achieve a significant cost reduction;
- solving environmental problems in the manufacturing process;
- It is a necessary condition to innovate and develop green products;
- Achieving a competitive advantage
- Increasing the company's revenues and thus increasing its market share;
- Enhancing the mental status of the company.

### **Organizational Innovation:**

**Definition:** Introducing and applying new concepts to improve internal environment and then overall performance of the company, including its environmental performance. A long-term efforts should be applied to improve the institution's ability to solve problems, and renew its operations. provided that this is done through creating a comprehensive development in the prevailing climate of the organization. Focusing on increasing the effectiveness of working groups, with help of change consultant or expert who convinces the institution members of new ideas that may be completely new in the market or include those ideas in production operations or management it includes finding new designs, concepts, and ways to do things. He explained the substantial improvement that the company undertakes in order to add value to the institution, either directly or indirectly. (Hamid Salem, 2016. 192)

There are those who added, "It means implementing a new organizational method in the institution's business, such as arranging the workplace and the external relations as well, and others, these new methods and procedures will improve the institution's performance. Organizational innovation is considered as necessary for those institutions intending to pursue strategic challenges." (Al-Talbi, 2018. 359)

### **Organizational Innovation Objectives:**

The goals of organizational innovation are as follows: (Al-Talabi, 2018. 359)

- Increasing institutions ' long-term competitiveness;
- organizing the workplace and the institution's external relations;
- Increasing operational efficiency and employees' satisfaction;
- Giving a competitive advantage;
- Controlling and developing the operations within the institution;
- Reducing the total costs of the institution;

- Documenting an ongoing program of inventions as institutions contribute to preserve the integrity of the vital environment by reducing resources consumption and waste generation and pollution. As well as their effects on ecosystems (land, water, and air) this contribution has positive effects on the institution's performance and its reputation, to reach the optimal use of raw materials, energy and water, and to prevent exposure to fines, through the possibility of re-using the product and the friendly products.

**Dimensions of Green Innovation:** Green innovation relies on major dimensions that are classified into: (Manal Abdel-Jabbar, 2019. 20-21)

**Organizational Dimension:** implementing new organizational method in the institution's business practices and organizing the workplace or the external relations, in terms of green organizational innovations; it includes green management systems or other environmental tools.

**Marketing Dimension:** Demand on environmentally friendly products has become an implementation mode, so institution do not need to change consumers and other institutions' behaviour. The customer plays a major role in the environmental innovations of the product, through their opinions and suggestions that enable the product to give an added value to the customer, and this role varies from product to another.

**Technical Dimension:** Improving technical capabilities, research and development activities, environmental innovation drivers, and the availability of technical knowledge within the institution reduces its vulnerability to face the requirements of new environmental regulations. Organizational innovations are also important products that stimulate innovations and processes. Organizational innovations are the application of a new organizational method, the organization of the workplace or external relations, it is very important specially to introduce technologies that save more costs, because they help to overcome incomplete information within the institution.

**Relationship between Green Innovation and Green Label:**

**Green Label Concept:** It is an American non-profitable organization established in 1990 by the Alliance of Environmental Professionals and other interested parties. Which grants the Green Label Certificate for products that meet the environmental standards it adopts, it has developed product environmental standards through a general process overview that includes producers, environmental companies, consumer groups and government agencies. (Heba Mustafa, 2017, 76)

**Procedures to Obtain a Green Label Certificate:** Here is a set of procedures through which one can obtain a green label certificate, including: (Heba Mostafa, 2017.77)

- Classify the submitted product to obtain the green label, and verify its conformity to the criteria associated within the product type with the approved standards to access the site so to include it, and to determine the appropriate standards.
- apply for obtaining the green label to complete the documentation procedures and pay the costs related to the product evaluation process;



- The Green Label Organization sends a card to check the required data; it sends as well the agreement to be signed.
- Provide the necessary data in addition to product sample, and receive the Green Label Organization team for the organization's field visit;
- After completing the audit and checks processes and conforming the product's characteristics to the approved standards, a green label certificate is granted. Thus, the product has the right to use the green label mark on its packaging and in advertising. In case of non-conformity, the Green Label Organization indicates the reasons and the obstacles to be overcome while ensuring confidentiality of test results so not to be delivered to the consumers.
- The Green Label Organization provides technical advice on designing the packages to have the green label mark and provides the accompanying text to the label that define the environmental benefits of the products;
- The Green Label Organization undertakes supervision and annual evaluation task to ensure that the product continue to meet the green label standards.

#### **Rules for Using the Green Label:**

- Use of the Green Label Mark: Using green label mark on product or service includes an explicit declaration that the product's characteristics conform to the environmental requirements, as well as that it is subject to the green label agreement.
- The Need for a Prior Written Authorization for Use: Using green label mark requires the prior written authorization, as the green label mark is protected by law and no one has the right to use the green label or any part of it.
- Composition and Components: After the approval process, the product packaging that has been documented by the Green Label Organization includes the following elements:
  - The green label symbol (green label mark): is associated with expressions that express the degree of reliability, literal translation for all languages is required on the cover
  - Other demands: In case of showing, the green label mark on packaging or on a product that does not have reliable environmental characteristics legal authorities penalize the violators of this matter.

Use of the mark in advertising: The mark can be used in advertising with specific conditions, the most important of which are:

- The advertisement does not contain any reference to other products that do not conform to the environmental conditions;
- Written approvals must be supplied by the Green Label Organization.

Rights of the Green Label Organization: The Green Label Organization reserves the rights of reviewing and approving the use of the company's name and mark, no organization has the right to use the green label mark for the rest of its products unless all the products of the company wishing to obtain the Green Label Certificate are documented. (Heba Mustafa, 2017,77)

#### **Green innovation and competitive advantage, sustainable environmental:**

**The relationship between green innovation and competitive advantage:** The environment is the new source of competitive advantage, and this is what companies should deal with a clear strategic vision. Therefore, environmental competitive advantage is considered as a source of success for the institution, while neglecting

environmental gains is a serious threat to its business in the market. The presence of increasing market segments concerned with environmental issues make the environment and its demands an essential part of the strategy of excellence in providing products with environmentally unique characteristics. We can summarize the dimensions of the sustainable environmental competitive advantage as follows: (Heba Mostafa, 75, 2017).

- **Core capabilities:** cleaner technology, people and environmental trends, green concepts and methods.
  - Positive commitment to environmental regulations is reflected in a high environmental quality reputation and impact.
  - A strategy directed at environmental excellence, focusing on the green clientele
  - **Environmental innovation:** that the new breakthroughs or improvements of the institution's operations and products are related to solving environmental problems and the negative effects.
  - Green culture that is based on green values and standards in the institution.
- Non-tangible Green value:** having a green mindset and an environmentally bright reputation in terms of relative initiatives and innovations.

**The relationship between green innovation and sustainable environment:** it is related to the broad concept of innovation that is about breakthrough by reaching first: a new green sustainable process or product as introducing solar cells to take advantage of the sustainable energy of the sun. Alternatively, reaching an environmentally efficient product or process compared to the old ones, as in the German flower industry, where this industry has developed floriculture in water, rock and wool rather than in the soil, in order to reduce insecticides, weeds and fertilizers. Also to response to the increasingly restrictive regulations on limiting the use and release of chemicals. (Heba Mustafa, 2017, 72)

#### **Green Innovation goals and Challenges:**

The application of green innovation enables to achieve a number of goals, the most important of which are:

- Energy conservation;
- Reducing emissions and developing the economy at the same time;
- Direct improvement of environmental quality;
- Reducing the greenhouse gases;
- Providing new job opportunities;
- The application of green innovation helps to achieve the goals of the environmentally friendly city.

Adopting a new vision based on environmental business intelligence means facing a set of challenges resulting from the new characteristics required in the organization's decisions, technologies, products and service. The most important of the challenges facing the green innovation are the following (Najm Abboud, 2012, 504-506):

- **The need for individuals with environmental sense:** institutions must work to create and train their individuals on the environmental sense, and emphasize it to be



one of the evaluating and rewarding criteria, so it is not possible to build environmentally friendly institutions without individuals with positive attitudes towards the environment and its demands.

- **Lack of measuring and evaluation tools:** means That institutions need to develop new methods to track the long-term effects of their various programs and activities on the environment.

- **Growing legal demands related to the environment:** The institution must develop its response type that connects it to the society and its customers, and environment, which is a fundamental feature of business intelligence. In fact, the rapid response is beyond complaining to laws and regulations, that it is an opportunity for business and achieving a Competitive advantage in a new ways based on the positive culture of both parties that is (profit-profit) profit of the organization, the profit of the society and the environment.

- **The need for a sustainability code:** the sustainability code means a set of principles and guiding values related to environmental protection and sustainability, which are adopted by the institution to follow up its members' commitment for it in all their decisions and practices.

## CONCLUSION

Through this research paper, we dealt with the most important conceptual and theoretical aspects related to green innovation, and we get the following results:

- Plurality of theoretical aspects to adopt the green innovation concept;
- Adopting green innovation concept enables economic institutions to achieve benefits that enable them to achieve competitive preferences, in addition to reduce costs;
- Adopting green innovation concept enables economic institutions to use the environmental features in new products as a competitive advantage for them.
- Adopting green innovation concept enables economic enterprises to reduce health risks on the environment;
- Adopting green innovation concept enables economic institutions to reduce unemployment rates and create jobs;
- The multiplicity of parties benefiting from green innovation, including the productive institutions, customers, the environment, etc.

Based on these results, we present a set of suggestions, the most important of which are the following:

- The need to raise awareness on the importance of green innovation and the shift into green institutions;
- The need to raise awareness about the social, economic and environmental benefits of adopting green innovation as it as important as the other modern concepts in institutions.
- Creating an integration between providing environmentally friendly products and achieving customer satisfaction through adherence to environmental standards and specifications and consumer protection laws.

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